THE LANCET.

VOL. I.] LONDON, SATURDAY, FEBRUARY 25, 1843. [1842-43.

COURSE OF LECTURES
ON
DISEASES OF THE SKIN;
THEIR
HISTORY, PATHOLOGY, AND TREATMENT.

Delivered in the Middlesex Hospital, during the Summer Session, 1842, *by*

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LECTURE XV.

VARIOLÆ VACCINÆ.

In my last lecture I directed your attention to the existence of an eruptive disease in certain animals, namely, in kine and in the horse, which bore many points of resemblance to the small-pox of man. I mentioned to you the fact of the transmissibility of this disease to man, by contagion, from animals so affected, and I illustrated this statement by the quotation of a well-marked case reported by Mr. Ceeley. Moreover, I took occasion to advert to the protection against small-pox which those enjoyed who had suffered from the vaccine disease. This fact, which for many years had been known in the dairy counties, was first applied to practice for the benefit of the human race by the illustrious Jenner, and the consequences of his experiments are universally admitted to be one of the greatest blessings conferred by science on man.

VACCINATION WITH PRIMARY LYMPH.

Jenner's first experiment was performed on the fourteenth of May, 1796, and was most successful in its results. Similar experiments have subsequently been made by other observers, and most recently by Mr. Ceeley. This gentleman remarks on the difficulty of communicating the disease of one genus of animal to another, and the frequent liability to failures which is the consequence; and the difficulty is not entirely removed when the virus has passed more than once through the system of the genus to be inoculated. But after a time the lymph becomes *humanised*, and is then transmissible with the utmost facility. Mr. Ceeley observes that more than half of his attempts to vaccinate with primary lymph failed, although the lymph was selected with care; and that the subjects of these experiments, vaccinated with the lymph which had been long current in man, immediately took the disease. Of the few upon whom an impression was made by the vaccination, some exhibited imperfect modifications of the varus or vesicle, and the cases in which a perfect vesicle was produced were greatly disproportionate to the whole.

The phenomena of vaccination with primary lymph, as they are somewhat different to those which attend the humanised lymph, I will briefly mention, and in doing so I may premise that they are subject to considerable variety. Whether vaccination with primary lymph be successful or not, says Mr. Ceeley, the puncture which receives it exhibits on the following day an unusual degree of redness. This redness, which is more or less intensive and extensive, according to the susceptibility of the subject, declines on the third or fourth day if the vaccination have failed, but becomes more and more concentrated if the operation have been successful. In some instances, even when success attends the process, the appearance of the papula is so long retarded that the first developed redness disappears, and a second is established when the eruptive action begins. There is great variety in respect of the period of development of the local actions; in some cases papulation is postponed to the tenth day, the vesicle is correspondingly late, and the areola is frequently "not complete till the eleventh, twelfth, thirteenth, fourteenth, or even sixteenth day." The areola at this period is frequently marked by the appearance of a number of "miniature vaccine vesicles," and sometimes, though rarely, vesicles are produced on the shoulders and on other parts of the body. The process of desiccation, even in perfectly normal vesicles, is generally protracted, "the crust remains adherent to the end of the fourth or fifth week, and leaves,

at its fall, either a highly vascular foveolated cicatrix or an ulcerated and even sloughing sore. The serious consequences here alluded to, in the minds of some, might appear an obstacle to the employment of primary lymph. But the chances of these disagreeable effects are diminished by a careful selection of subjects. Mr. Ceeley recommends for the purpose such children as possess a "thick, smooth, clear skin, and have a dark complexion, and are not too florid, but still plump, active, and healthy." By a steady and judicious selection of these and similar subjects, in a few (even three or four) removes the severity of the local mischief becomes manifestly materially diminished, the vesicles acquire a magnitude and beauty often greatly superior to what is daily witnessed, and in a short time the lymph may be transferred with safety to others even more sanguine and robust, where it is well known lymph, if good for anything, will produce the finest and most perfect vesicles.

Mr. Ceeley further remarks, that in the employment of primary lymph too much care cannot be used in preventing any exterior cause of irritation, such as the untimely rupture of the vesicle, and he continues:—"As we advance we find the necessity of preparing the most objectionable subjects, and the advantage of subjecting many of them to the same preliminary treatment which the best and most expert inoculators of small-pox formerly so successfully adopted for their patients, for it is a long time before some individuals can be safely vaccinated with this active lymph, even though taken from the mildest vesicle."

In respect of the constitutional symptoms produced by primary lymph, Mr. Ceeley observes the same variety as attends the local disorder. "Roseola, lichen, &c., with vomiting, diarrhœa, delirium, &c., arise in some, while in others mere acceleration of pulse is observed without complaint. In many instances the symptoms appear as early as the fifth day, on the sixth and seventh very often, with morning remissions and evening exacerbations, terminating on the ninth or augmenting until the height of the areola. In other instances they are not manifest till the eighth or ninth day, sometimes later, occasionally they are scarcely observable. In some subjects a single vesicle will be attended with earlier, more severe, and longer-protracted symptoms than four or six will produce in others."

VACCINATION WITH HUMANISED LYMPH.

The intent of the operation of vaccination is to bring the cow-pock lymph in such relation with the vascular tissue of the dermis that it may be conveyed into the stream of blood of the capillary system, and be thus diffused through the body. Under favouring circumstances the cow-pock lymph has been known to make its way through the epidermis without any abrasion of that layer, and has thus entered the vascular system, but these cases are necessarily rare. One of a singular kind is mentioned by Mr. Ceeley. A gentleman had been engaged all the morning in vaccinating, and had wiped the lancet with his pocket handkerchief. On his return home he used the handkerchief to his child's face. A vaccine vesicle on the side of the nose followed the accidental contact of the vaccine matter with this part. The child suffered severely from its effects, and a deep scar remained behind.

When the intention of vaccination is fulfilled by the operator, the mode of proceeding adopted is of secondary consequence. Some practitioners puncture the skin with a sharp lancet, while others prefer one that is blunt. Some are content with two or three punctures, while others make twenty or thirty within a small and circumscribed area. Some, again, prefer scratches to punctures, while each conceives advantages in his own peculiar plan. The more ancient methods of inoculation, namely, by blister, or by incision, into which a thread impregnated with virus was placed, are now laid aside, to give place to the readier plans just mentioned. One precaution alone need be attended to, and that is, to draw as little blood as possible, for this, if it be effused freely, will be apt to carry away the lymph in its stream. After the punctures are made, the lymph collected from the glasses is introduced into the wounds; or if the lymph be borne on points or in tubes these are inserted into the apertures.

The changes induced in the vaccinated skin after the introduction of the lymph are not apparent to the eye until the third or fourth day. At this period there is a slight blush of red upon the skin immediately around the puncture, and in the situation of the latter the dermis is harder than natural, and elevated into the form of a small papula. The appearance now described constitutes the *papular* stage of the eruptive process. On the fifth and sixth days the *vesicular* stage has commenced, liquor sanguinis is effused upon the inflamed point, and the epidermis surmounting the papula is raised in the form of a small vesicle. The vesicle is pinkish at first, but soon becomes whitish and pearly in its aspect, it is roundish or oval in its figure, and umbilicated in the centre. By continued effusion the vesicle progresses in size until the eighth or ninth day, when it attains its complete development. It then becomes altered in its character, loses its umbilicated form, and is either more flattened on its surface than it was previously, or more distended.

The eighth day of the vaccine vesicle is that of its greater beauty and perfection; Jenner called it at this period "*the pearl upon the rose.*" The rounded and accurately defined vesicle with its brilliant and peculiar

whiteness, representing the orient gem, and the richly crimsoned areola upon which it rests, the rose's petal. It may be right to mention here, that the form of the vesicle will be somewhat modified by the manner of inoculation; if that operation be effected by puncture the vesicle will be perfectly circular, but if by a scratch the vesicle will be more or less oval. The areola which begins on the eighth day increases in extent during the ninth and tenth, and on the latter exceeds the diameter of two inches. The skin, overspread by the areola, is of a deep and vivid red colour, subsiding towards the circumference, and bounded by a well-defined margin. It is, moreover, hot, swollen, and hard, attended with much itching, and raised by the tumefaction above the level of the adjoining skin. To the touch it is tender, the movements of the arm are painful, and the pain is sometimes augmented by the extension of inflammatory action to the axillary glands. At this period an erythematous efflorescence in the form of patches is occasionally developed around the shoulder, and upon the neighbouring part of the trunk, and the areola itself is not unfrequently the seat of an abundant crop of small transparent vesicles.

The period of greatest activity of inflammation of the areola, namely, the tenth day, corresponds with an important change in the contents of the vesicle. The limpid and transparent lymph becomes transformed into pus, and this change commencing on the ninth, continues during succeeding days until the scab is formed. During the eleventh and twelfth days the vesicle attains its greatest breadth, generally exceeding a quarter of an inch in diameter, and desiccation, which occurs in its centre as early as the tenth day, spreads towards its circumference.

The process of desiccation progresses during the five or six days following, and concludes by the separation and fall of the scab, the latter process being usually accomplished between the seventeenth and twentieth days. The fossa which results from the fall of the scab is deep, of a vivid red colour, and marked upon its floor by numerous small pits and radiated lines. The redness of the fossa continues for several weeks; in the course of months it becomes whiter than the surrounding skin, and in this state constitutes a cicatrix, which is permanent for the rest of life. The areola, which reached to its height on the tenth day, fades by degrees, becomes purplish in its hue, and disappears last at its circumference.

To sum the periodic changes of the vaccine development: the three first days are those of *incubation*; the fourth is *papular*; the fifth, sixth, seventh, and eighth, are *vesicular*; the ninth, tenth, and eleventh days are *pustular*; and the twelfth to the seventeenth or twentieth, those of *desiccation* and *separation*.

In anatomical structure, as examined by a horizontal section, the vaccine vesicle is found to be composed of a congeries of cells each separate from the rest. This structure, analogous to that of the small-pox vesicle, I believe to result from the individual action of the numerous papillæ which are involved in the inflammatory action succeeding the operation, and it gives rise to several practical considerations. The first of these is, the necessity which exists, in your attempts to obtain the vaccine lymph, to make such an incision into the vesicle as shall open several or all the cells, for if you but wound one or two the lymph will exude only from these. Another point, which turns on the multilocular structure of the vesicle, is the consequent inclusion of the remains of the lymph in the desiccated scab, as in a case of nature's own construction. We avail ourselves of this circumstance by preserving the scabs and exporting them to climates, which, from their heat, lymph could scarcely reach by other means. The scabs are then triturated with a little water, and vaccination is performed with the resulting pulp. A third practical consideration arising out of the peculiarity of structure of the vaccine vesicle is the character of the cicatrix which it leaves upon the skin. Each of the cells of the vesicle is represented on the cicatrix by a small pit or *fovea*, and the pitted surface is technically termed *foveolated*. This appearance, should it be met with in a cicatrix on the arm of a person supposed to be vaccinated, may therefore be regarded as evidence that vaccination has been perfect in its stages, although the absence of this peculiar cicatrix may be no proof that the individual is not protected against the influence of small-pox.

The *constitutional* symptoms attending vaccination are generally slight, and often so trifling as scarcely to excite attention. More rarely there is some degree of fever, which occurs on the eighth and immediately following days, the febrile reaction corresponding with the suppurating period of the vesicle, and being analogous to the secondary fever of small-pox. I have already remarked that when primary lymph has been used the constitutional symptoms are sometimes severe, and Mr. Ceeley has recommended that under such circumstances the subject be prepared previously to the operation.

Treatment.—The consideration of unwonted and unfavourable effects resulting from vaccination leads me to the subject of treatment. The symptoms of constitutional disorder, when they exist, are generally so very trifling that diet alone is sufficient for their relief; in some few cases it may be desirable to administer a saline aperient to the mother of the infant; or a few doses of the usual infant medicine, namely, hydrargy-

rum cum cretâ, cum rhæo, or magnesia cum rhæo, may be needed for the child itself, special symptoms requiring to be treated according to the general principles of medicine. Should the local inflammatory action run high, and danger be apprehended of extensive ulceration or sloughing a poultice or water-dressing should be applied to the part.

VACCINELLA.

Vaccination is sometimes, but by no means frequently, attended with an eruption upon the surface of the body of greater or less extent. The aspect of the eruption presents all the varieties which are characteristic of a varioloid, being, according to circumstances, either erythemoid, papular, vesicular, or pustular. The period of eruption is that of the commencement of suppuration in the vesicle, and its cause is either an excess of activity of the virus, as in the case of primary lymph, or an excitable, and, if I may so speak, variolous state of the constitution. When all these circumstances are considered you will be struck with the evident analogy which subsists between this eruption as associated with vaccinia and varicella as due to variola; and you will perceive the grounds upon which the term vaccinella has received its application to the secondary eruption following vaccination.

Illustrative of the great severity of the vaccinellous eruption sometimes occasioned by primary lymph, are several remarkable instances, referred to in the Report of the Vaccination Section of the Provincial Medical Association, and published in the eighth volume of the "Transactions" of that body. These cases occurred in India, and the reporters consider that their severity may be explained by the violence of the epizootic. To this, however, may be added the fact, that pure lymph was not employed, but that the matter inoculated was a pulp obtained by the trituration of scabs taken from the cow. The scabs being the result of the perfect development of the vesicle must consequently have contained pus mingled with the desiccated lymph, and very probably the whole was pus retaining some of the properties of the original lymph. In these cases, therefore, vaccine pus was inoculated, and we know not what decomposition may have taken place in this demi-vitalised fluid in a tropical climate previously to its trituration. In the vaccinations made by Mr. Macpherson, in Bengal, in 1837, an eruption was developed upon the surface of the skin of the "true variolous nature." Mr. Wood, at Gowalpara, observed similar cases in which the "symptoms were so severe as to excite apprehension that the disease would terminate fatally. He was so strongly impressed with this fact, that he thought it would be better to take human small-pox rather than cow small-pox for inoculation when the latter assumes its dangerous and fatal form." Again, Mr. Brown, at Silhet, reduced to a pulp with water some dark-brown scabs, scattered over the back and abdomen of a cow labouring under the epizootic, and inserted a part of the pulp into punctures made in the arms of four children. "In all, correct vaccine vesicles were said to have been produced, the constitutional disturbance, however, being on the eighth day more severe than usual. From this stock the disease was propagated during two months without any suspicion as to the genuineness of the affection. After this time children in whom the virus was inserted were on the eighth day attacked with fever, followed by an eruption, which spread over the whole body, and in one case proved fatal. Mr. Fernel, whose own child perished by the disease, describes it as a true small-pox in its worst form. Connected with this detail we find the following interesting case:—Mr. T., about eighteen years of age, was first vaccinated in India, in his infancy; he was revaccinated in Scotland, whence he had returned about eight months. Two days after his arrival in Silhet he was attacked with severe rigors, nausea, vomiting, and slight delirium. These symptoms were followed by a copious eruption, which spread over the whole body, and was evidently of a variolous character. The origin of this disease attracted the attention of Mr. Brown, and he observes,—"We can only ascribe it to one or other of the following sources of infection, the eruptive disease which attacked the European children above referred to, or that which prevailed epizootically among the cattle."

VACCINELLA ERYTHEMATOSA.

The most common of the secondary effects of vaccinia is an erythematous efflorescence, usually termed roseola vaccina; it occurs on all parts of the skin, but especially around the seat of puncture, in the form of patches of variable size and extent. The eruption makes its appearance on the ninth or tenth day of the vesicle, and disappears in the course of two or three days.

VACCINELLA PAPULOSA.

The papular form of vaccinella shows itself in children with the ordinary characters of strophulus. Like the preceding it is met with at the suppurative period of the vaccine vesicle, and subsides in the course of a few days.

VACCINELLA VESICULOSA.

The following case, which recently came under my notice, will serve to illustrate the vesicular form of vaccinella. — Green, a child, eighteen months old, was vaccinated at the London Small-pox Hospital, on Monday, June 7th, 1841. On the ninth or tenth day after the operation an eruption of red spots was perceived on the forehead, the

efflorescence quickly extending to the face, neck, trunk, and arms, and by the thirteenth day were dispersed over the whole of these regions, the redness being augmented towards evening and during the night. On the sixteenth day I first saw the patient; the vaccine crust and areola were natural, the eruption had subsided on the face, and was now principally confined to the arms, chest, and back, the legs being nearly free. In these situations it might be perceived in its successive stages; there were small red spots, the earliest form of the affection, and larger patches, of a roundish or irregular form, of about the size of a fourpenny-piece, several of these latter patches being congregated here and there, so as to form clusters of considerable size. The margins of the patches were of a dull-red colour, and somewhat elevated, while the centres presented a yellowish tinge, and in some situations were covered with numerous small vesicles, containing a limpid and transparent serum. On the eighteenth day the redness of the patches was declining, their raised border had become lighter in tint than the centre, and the epidermis was desquamating over their surface, particularly on those patches where vesicles had existed. On the face the vesicles terminated in thin, brownish, and spongy laminæ. I inoculated a healthy child with lymph taken from these vesicles, but without producing any effect.

The following case is narrated in the "Archives de Medicine" for September, 1841:—An infant, a week old, was vaccinated July 3rd; on the 10th several papulæ appeared on several parts of the skin; on the 15th there were eleven umbilicated vesicles on the abdomen and legs, similar to those of cow-pox. Three children were inoculated with lymph taken from this eruption, and vesicles were developed identical with those of ordinary vaccinia.

PETECHIAL COW-POX.

Another secondary affection consequent on vaccinia is recorded by Dr. Gregory, and formed the subject of a paper lately read before the Royal Medical and Chirurgical Society. This case Dr. Gregory regards as one in which the hæmorrhagic diathesis was induced temporarily by the "agency of the morbid poison" introduced into the system. Its features are briefly these: a healthy child, four years of age, was vaccinated at the London Small-pox Hospital, on the 19th of May, 1842. On the fifth day the arm showed signs of inflammation, and spots appeared on the face; on the eighth day "the vesicles appeared dark, as if filled with blood, the areola was of a mahogany colour, obviously from ecchymosis, and numerous petechiæ were dispersed over the whole body, more especially the face, neck, and arms. There were several patches of ecchymosis on the tibia. The child's appetite and sleep were unimpaired." On the ninth day "the vesicles were jet black. It was obvious there had been extensive ecchymosis around the incisions, which was in process of absorption. The petechiæ over the body were numerous. On the left temple there was a very large extravasation of blood, owing to a slight bruise which the child had received. There had been some bleeding from the left ear, and a few drops of blood had escaped from the nostril. The child's general health was good; the bowels had acted freely from medicine taken the preceding day; no blood was perceptible in the motions." "The ecchymosed state of the arm and the petechiæ declined with the decline of the cow-pock." By the sixteenth day "all hæmorrhagic appearances had ceased." "The child was in perfect health." Two other children of the same family, vaccinated at the same time, and with the same lymph, went naturally through the disease.

Dr. Gregory remarks, as a commentary on this case, that "the previous health of the child, the appearance of the petechiæ on the fourth day of the vaccination, and their decline on the sixteenth, forbid the assumption that there was here an accidental coincidence of cow-pox in a previously unhealthy condition of the fluids. The direct effect of the vaccine poison upon the blood may teach us to judge of the influence exerted by cow-pox under ordinary circumstances upon the circulating mass. It affords a key to explain the more recondite phenomenon of anti-variolous power." Again, comparing this affection with petechial small-pox, and adverting to the apparent freedom from disorder of the brain and nervous system, Dr. Gregory observes,—"It would appear, therefore, that this singular condition of the blood is attributable, in a great measure, if not altogether, to the direct agency of the poison on the mass of circulating fluids, and is independent of the brain and nervous system."*

ICTERUS IN NEW-BORN CHILDREN.—APPEARANCE IN THE KIDNEYS.

In new-born children who have die jaundiced, Dr. Cless, of Stuttgard, has remarked some striking pathological alterations in the kidneys. On cutting into these the papillæ of the tubuli uriniferi are found to be filled with some reddish-yellow matter, and on squeezing them a quantity of yellow granules, as minute as vegetable pollen, may be forced out. These granules are insoluble either in alcohol or in water at any temperature; but their chemical composition does not appear to have been yet fully inquired into.

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* The case of petechial cow-pox quoted by the lecturer is published in the last volume (xxv.) of the "Transactions of the Royal Medical and Chirurgical Society."

THE DIAGNOSIS, PATHOLOGY, AND TREATMENT OF TYPHUS FEVER.

By GEORGE ROSS, Esq., Surgeon, Enfield.

THE DIAGNOSIS.

IT seems almost necessary to apologise for introducing so trite a subject to the notice of the profession. Typhus fever is not one of those "undiscovered countries" from which the explorer in natural science can expect to return fraught with novelties not less important than curious, as the reward of his researches. Nevertheless each traveller, even over a well-known tract, commonly pursues a different path to the attainment of his end: he consequently sees objects in a new light, and frequently terminates his pursuit with impressions different from those of his predecessors. Where knowledge is deficient, forbearance, at least, may be expected to be shown towards the attempt to add fresh increments to the general stock. It is not my intention to collate the observations of others, nor to offer a systematic treatise on the pathology and treatment of typhus fever. Such a plan would be inconsistent with the usual scope of a periodical essay; it would be also tedious to the reader, troublesome to the author, and useless to both. I shall merely record such facts as seem necessary for the elucidation of my views, and which have been of assistance to me in forming them. On being summoned to a patient labouring under typhus I have found these symptoms present.

Secretions, &c.—Tongue *dotted*, covered with a thick white fur, and light brown in the centre, towards the root; skin dry and hot, but occasionally perspiring; pulse quick and soft; urine scanty and high-coloured; bowels open.

General Symptoms.—Complains of a sense of coldness along the back and loins; slight shivering; occasional flushes; pain and lassitude in the limbs; sharp pain, increased on pressure, in the epigastric region and abdomen generally; great pain and giddiness in the head; eyes bright and watery; sense of extreme depression.

History.—First felt general pyrexia yesterday, but has become pallid, lost her appetite, and suffered from debility, for some weeks past, having acted as nurse to the rest of the family labouring under the disease.

The above is a general summary of the symptoms that presented themselves in this particular case; and I consider it, in the main, a fair type of the *ensemble* of the symptoms of typhus as they appear at the onset in this country.

The Tongue.

The state of the tongue is one of the most important means we possess of diagnosticating the character of febrile diseases. It is also one of our most infallible monitors of the conditions of the alimentary canal. I have said that, in typhus, the tongue is *dotted*; a phrase that I have long employed for my own convenience to denote that character of tongue always typical of febrile disorder. It is more especially observable in children, and accompanies the premonitory stage of all eruptive and continued fevers. Its characteristics are these: the tip and edges are red, the papillæ are also red, shooting through a white fur.

Diagnosis between the dotted Tongue and the Strawberry Tongue of Scarlet Fever.

The appearance of the tongue above indicated is almost invariably mistaken for the strawberry tongue of scarlet fever. It is present in this fever *only at the commencement*, or in the stage common to all fevers. In the strawberry tongue of scarlet fever the papillæ are much more elongated, and hang over a red, raw-looking mucous membrane, having precisely the character of the red strawberry, from which the name is derived. In scarlet fever the tongue assumes this character when the eruption appears on the surface; and it is a consequence of the inflammation extending by continuity to the mucous membrane of the tongue. I have known more than one instance of a practitioner losing credit by prognosticating scarlet fever from the appearance of the dotted tongue. This, therefore, is a point of great practical importance, the truth of which can be determined by any practitioner having a child ill under gastric disorder, with heated skin; I, therefore, call attention to it most particularly. Measles, like scarlet fever, exhibits, at its onset, the dotted tongue; but in this disease the fur is usually moist and of a creamy character, gradually clearing off around the papillæ, and assuming a patchy appearance. This appearance is observed more especially if the mucous membrane of the bowels become implicated.

Diagnosis between the Dotted Tongue and the Red Tongue.

There is also another description of tongue to which I am anxious to direct attention.

During the progress of typhus it will often happen that the fur will clear off, and the tongue will look morbidly red and glazed. An inattentive observer might pronounce it clean and normal, but it is, on the contrary, indicative of an inflammatory state of the lining mucous membrane of the alimentary canal. When this state of tongue occurs in typhus I believe that there is always suppuration of the agminated glands of the ileum. It is a symptom not peculiar to typhus, but is generally characteristic of

suppuration in any internal organ, and it forms one of the symptoms of hectic. We must not conclude, however, that the red tongue is observed only in cases of suppuration; it is immediately the characteristic of inflammation of the mucous membrane, and exists when this lesion occurs as an idiopathic disease. I shall enter more fully upon this point when treating of the pathology of fever.

In the early stage of typhus there is often a blueness perceptible under the mucous membrane, apparently from venous congestion; but, as the disease advances, this appearance is lost, under the accumulation of fur, which annihilates also the dotted character. The fur, at the commencement, is commonly of a dirty-looking ash-colour, and gradually passes to brown and black. If there be much irritability of the mucous membrane of the stomach the tip and edges of the tongue will be red and more or less moist.

The Skin

will be hot and flushed proportionately to the severity of the febrile heat. I have occasionally observed the face and chest as red as in a patient labouring under scarlet fever, more especially in one or two cases, where there was concurrent affection of the throat; but the redness was distinguished from the blush of scarlet fever in *not exhibiting the minute papillæ* perceptible in this disease. I comment upon the skin more particularly, however, to notice the peculiar faint, fetid effluvia which invariably escapes from it, and of which I shall hereafter have occasion to speak.

The Pulse

is very variable in typhus, and I do not regard it as an indication which can very materially assist our diagnosis of the internal lesions present. As a measure of power, however, it is in this, as in other diseases, an invaluable guide. It may be at first either quick, strong, and bounding, or, as it is usually found, quick and soft. Gradually, as debility ensues, it becomes more frequent and weaker, and, lastly, tremulous, and subject to sudden fluctuations. This last symptom seems to depend upon subsultus of the heart, as it is generally perceived in the last stage, when the whole muscular system is liable to spasmodic affection.

The Bowels

are seldom relaxed in the commencement of typhus. I do not think that I have ever seen a case of typhus, *running its regular course*, which commenced with diarrhœa. This is an ordinary symptom as a sequel of the disease, and, in moderation, is a very necessary excretion; but the various contingencies bearing on this part of the subject I shall dilate on more fully when I enter upon the treatment of the disease.

The Urine.

By a close attention to the various conditions of this excretion the practitioner may discover the internal lesions, and arrive at a decided prognosis of the disease more accurately than by any other means. I am aware that innumerable obstacles, both real and imaginary, present themselves to the practitioner actively engaged in the routine of his profession, and prevent him from prosecuting the pursuit of chemical analysis, towards which he might be strongly urged by inclination. There is no obstacle, however, too great to be surmounted, and the determination once ardently embraced has, of itself, almost vanquished the difficulty. Some may profess a want of chemical knowledge, others of time; but the one desideratum may be created and the other acquired, and towards accomplishing an object highly essential to the attainment of a perfect knowledge of an obscure disease, no perseverance should be spared. At all events it is the bounden duty of every practitioner to make use of such formulæ as are known to the profession to enable him to determine the state under disease of that most important excretion, the urine. Pathological chemistry is yet, however, in its infancy; little has been accomplished in it, and much of that little is doubtful or erroneous. Nevertheless, sufficient of truth is already discovered to form a landmark for the guidance of the practitioner, who is too often bewildered in his diagnosis by the anomalous character of the symptoms observed. The various works that have lately appeared in Germany on physiological chemistry will doubtless awaken a spirit of emulation among the medical ranks of our own country. The indefatigable researches of a Müller, and the beautiful theories of a Liebig, cannot fail to impress our minds strongly with a conviction of the importance of the subjects to which these eminent men have devoted the energies of their brilliant intellects. I must confess, at the outset, my obligations to these men, and to others who, like them, are beacons on the wide ocean of science.

Pathological chemistry has hitherto been in little repute amongst us. Pathological anatomy, indeed, is ardently studied, but I fear—nay, I am convinced—that this branch of study will eventually be scarcely found so practically useful as the investigation of the morbid conditions of the waste matter of the system. If physiological chemistry is the base, pathological chemistry is the superstructure. We cannot understand the latter without a knowledge of the former, yet the benefit is reciprocal, and each serves as a means of elucidation to the other. Before

entering upon the morbid conditions of the urine let me give the

Analysis of Healthy Urine

by Berzelius:—

Water	933.00
Urea	30.10
Free lactic acid, lactate of ammonia, osmazome soluble in alcohol, and extractive soluble in water	17.14
Lithic acid	1.00
Mucus of the bladder	0.32
Sulphate of potash	3.71
Sulphate of soda	3.16
Phosphate of soda	2.94
Biphosphate of ammonia	1.65
Chloride of sodium	4.45
Muriate of ammonia	1.50
Phosphate of lime and magnesia	1.00
Silica	0.03
	1000.00

There are numerous deviations from this standard in typhus. Occasionally, in the early stage, it will be of a light green colour, and loaded with phosphates; towards the termination its colour will change to deep brown, and uric acid will be abundant. The following are, however, at first, its usual conditions.

The Urine in Typhus

is acid, scanty, and high-coloured, and when, submitted to the proper tests, it does not manifest albumen. There is an excess of urea as well as of the phosphatic salts. Oily matter copious; no excess of uric acid; and, as an additional symptom, during its passage, it is commonly hot or cutting to the patient.

Berzelius has observed that during the cold stage of fever the urine becomes more watery, at the same time that its quantity is diminished; in the hot stage the colour becomes darker, and the chloride of silver, which formerly produced no precipitate, now throws down a sediment. This effect Berzelius believes to arise from the circumstance of the urine having lost its acid reaction. At a later period in the fever albumen appears. During its decline the free acid reappears, and the urine deposits a sediment, which Berzelius believes to be the ordinary sediment, with a much larger proportion of colouring matter. Now this statement evidently refers to the urine in intermittent fever, and on this ground I shall not in this place dispute it.

Duvernoy has, however, asserted that the urine is *always acid* in fever, an assertion which I have invariably found to be correct in typhus fever, in which disease the urine on some occasions is very strongly acid.

Absence of Albumen from the Urine.

In one instance only, out of very numerous experiments made on the urine of patients labouring under typhus in its various stages, have I found albumen present in any *considerable quantity*, and in this case coagulation from the clear liquid did not take place, but only a light pearly opacity was produced. On testing the sediment of the same urine after it had stood two days, by liq. potassæ, a gelatinous precipitate, of a *greenish* colour, was thrown down. This precipitate I believe to have been pus, albumen being rendered soluble by potass, and mucus becoming only more viscid. Dr. Thomson also states, on the authority of Graysmeyer, that if the substance to be examined be triturated with its own weight of water and mixed with an equal quantity of saturated solution of carbonate of potass, if pus is present a transparent jelly is formed in a few hours; but this does not happen if mucus only is present. Pus contains a large proportion of albumen, and it is not surprising, therefore, that albumen should be detected in the urine. The pus, in the case I have cited, was doubtless the result of inflammation of the mucous membrane of the urinary passages. The colour of the precipitate should be borne in mind, as it will engage attention when we treat of the colouring matter of the urine.

I have frequently, during the latter stages of fever, precipitated minute quantities of albumen by nitric acid, but the amount has been always too small to demand separate consideration. In the case above related the lungs were much congested, and the skin was dry and harsh; but there was no anasarca, nor inflammation of the integument. As a corollary, however, to the foregoing, I shall state the conditions under which I have found albumen present in the urine during the progress of other diseases, particularly dropsy. Others, as well as myself, have frequently found albumen in the urine when there was no disease of the kidneys, either distinguishable by symptoms or discoverable on a post-mortem examination. But in dropsy, according to my own observations, whenever, as a general rule, the anasarca appeared above the knee, more or less albumen appeared in the urine. If, during the night, rapid effusion had taken place, either into the cavity of the chest or abdomen, the albumen was not present in the urine, or discoverable only in small quantity. If also the upper part of the body perspired profusely, as it frequently does in dropsy, albumen was seldom found in the urine, or if found, it was only in small proportion. On the contrary, if the skin were dry and harsh, albumen was abundant in the urine. From these facts I have been led to conclude that the presence of albumen depends, primarily, on the disturbance of the functions of the skin, and that its quantity is influenced by the condition of the internal serous surfaces. This opinion derives corroboration from the facility with which albumen is secreted on the applica-

tion of cantharides or any other excitant to the integument. That one of the most important though least recognised functions of the skin is to secrete albumen and to bestow upon it the new characters which it exhibits in the form of gelatine, there can be little doubt; firstly, because as gelatine does not exist as such in the blood, it must be the result of the transformation of albumen or fibrine (and, in every probability, of the former, which seems to be the basis of all the azotised metamorphoses); and, secondly, because, under an increased action and suspension of its proper glandular functions, albumen is actually secreted. Mandl, in his paper read before the Societè Medicale d'Emulation of Paris, on the relations between blood, pus, mucus, and epidermis, says that their fibrinous globules are identical; that these principles differ only in the quality of the serum in which their globules are held; and that if the fibrinous globules of the blood remain fixed to the surface on which they are secreted, they form epidermoid cellules. Let us consider, therefore, the skin as a glandular organ, and the epidermis as the result of a constant and rapid excretion, which, when interrupted from any cause, must necessarily involve considerable disorder of the functions of the lungs or kidneys. We may easily infer that when the functions of the skin are obstructed the kidneys in particular would be called upon to eliminate a fluid not found in their usual excretion, from the readiness with which an alternation of action is established between these organs. We must not presume, however, that in all cases of interruption of the functions of the skin the urine will secrete albumen; for unless this principle be in great excess in the system the kidneys will convert its elements into its own peculiar principles, and it is only under conditions which cause the suspension of such transformations that we can expect to detect albumen in the urine. This is a subject of much complexity, and implicates a multitude of relations that it would be irrelevant for me to notice at present. But whenever the natural office of the skin is much impeded there will be a determination of albumen to the kidneys, and this principle will be occasionally excreted by these organs in its undecomposed state. Accordingly, I shall not be surprised if other experimenters discover albumen in the urine in typhus more frequently than I have, although, as a general rule, I do not expect that it will be found in any appreciable quantity, except during convalescence, or after the abatement of the general febrile action.*

Urea.

An excess of this principle is discoverable in the urine in every stage of typhus, from the first exacerbation to the departure of the stage of reaction in convalescence; I have never found an exception to this rule. As a common and almost universal lesion in other diseases where urea is found in the urine in excess, and not dependent on affection of the kidneys themselves, I have remarked pain and fulness in the right hypochondrium, which, in conjunction with other symptoms, have denoted either congestion or inflammation of the liver. This I state broadly, as the result of a great number of observations. When, for example, I have been summoned in haste to a patient complaining of intolerable dysuria, I have very generally found affection of the liver; and when this organ has been properly cleansed the pain on micturition has gradually ceased. This symptom is commonly called gravel; but if by this term be meant an inordinate excess of uric acid, or its concretions, a greater misnomer was never adopted. A case of true gravel scarcely occurs once for fifty cases of this disease. Concretions of uric acid are comparatively uncommon. Uric acid in a state of solution is destitute of any irritating quality; in a state of calculus it acts as a foreign body, and of course causes uneasiness. This truly excruciating symptom depends, in nearly all cases, on an excess of urea. This principle of the urine has many qualities similar to nitre, and seems to act upon the kidneys in an analogous mode. Of all medicaments nitre approaches the nearest in its action to this natural stimulant.

Urea has, like nitre, a cool, sharp, cutting taste, and when thrown on the fire it deflagrates, burning, however, with a yellowish-white flame, instead of a blue one, like nitre. Either substance in excess produces tormenting dysuria. In typhus, the patients almost invariably, during some period, and occasionally throughout the whole course of the disease, complain of a sense of heat and a cutting pain on making water, and this is usually attributable to the excess of urea. Dysuria may, of course, depend on other causes besides an excess of urea, as, for instance, inflammation of the

* Since writing the above, I found that M. Martin Solon formerly asserted that the presence of albumen in the urine during the progress of febrile diseases, was a critical sign of the establishment of the stage of convalescence; but that he afterwards abandoned this opinion on finding that he had committed an error in making no distinction between the precipitate obtained equally by heat and nitric acid, and that obtained by nitric acid alone; the former alone being albumen, the latter urate of ammonia. He found albumen in *four* cases only, and urate of ammonia in *fifteen* out of twenty-three cases of typhus in which the urine was examined. The comparative infrequency of the appearance of albumen agrees with my own observations, and the period of its appearance corroborates the above deduction.

mucous membrane, hysteria, and various neuralgic complications; but I at present confine myself to its causes as existing in the excreted fluid. Now, in typhus fever, there is always congestion of the liver, and, in the beginning, an arrest, to a greater or less extent, of its functions, and it is in consequence of this condition of the liver that the kidneys, as the great emunctories of the system, carry off the greater portion of the additional excrementitious matter. When this state of the liver is excessive, and inflammatory action runs high, uric acid forms another product. I am aware that the urine will be occasionally cutting to the patient when, on examination, uric acid is found in excess; but the urea, in such cases, will be found in excess also; while, on the contrary, the urine will often cause extremely painful sensations when the uric acid is found in normal proportion and the urea alone in excess. When, therefore, a patient in typhus complains of pain in micturition (often not complained of unless questioned, precisely as there may be no complaint of pain in the abdomen on pressure, even although inflammation of the mucous membrane of the bowels be certainly present) we may be sure that there is an excess of urea in the excrementory fluid.

Tests of Urea.

The usual mode of testing urea is to evaporate the urine to the consistence of an extract, dilute it with a very small quantity of water, and when cold add nitric acid; nitrate of urea will be precipitated in white pearly scales. Dilute with a little more water; add carbonate of potass to saturation, but not in excess; let it stand until crystals of nitrate of potass subside at the bottom, then pour off the liquid, evaporate, and the urea will be left in a crystallised state. It may undergo, if necessary, the usual mode of purification. I have often employed a very beautiful mode of proving the presence of urea. After the nitrate of urea is formed I have added a small quantity of water in which it is dissolved, then heated it in a clean iron spoon over a lamp; the nitrate of urea is decomposed, and some of its elements combine with the iron. If this product be now placed in another vessel, diluted with a little distilled water, and a solution of pure potass (liq. potassæ) be added, a beautiful precipitate of Prussian blue will be thrown down. The colour is apt to be deteriorated from various causes, such as the presence of carbon, dirt upon the spoon, or a very high colour of the urine. Those acquainted with the products of the decomposition of urea will be able to see the changes that here take place.

Origin of Urea.

The excess of urea in typhus is one of the most convincing proofs we possess of the truth of the law enunciated by Liebig, and which I am surprised that any one could have doubted, viz., that urea is the result of the decomposition of the nitrogenised tissues of the living organism. In typhus little or no food is taken, yet a considerable excess of urea is discoverable, and this excess is not merely relative to the quantity of watery particles secreted, but absolute in reference to its normal amount. Whence then can it be derived, but from the tissues undergoing rapid decomposition? The formation of urea in the extreme texture appears to me to depend upon an insufficient supply of oxygen (for reasons which will be hereafter explained), by which means carbonic acid and water are not produced in the healthy proportion, and their elements undergo new arrangements that terminate in the formation of urea and other matters.

Theory of Respiration.

In a state of health a certain determinate quantity of oxygen is taken into the system by respiration, and this amount bears a direct relation to the quantity of carbonic acid expired. In the experiments conducted by Lavoisier and Seguin, the proportion (by volume) of oxygen consumed exceeded that necessary for the production of carbonic acid in the ratio of about 100 to 81.5, a result which exactly coincides with the researches of Sir H. Davy. For our purpose it will be sufficiently accurate if we estimate the additional amount of oxygen as one-fifth. It is remarkable that these numbers approach very nearly those which Professor Graham has given as expressive of the different diffusion volumes of oxygen and carbonic acid, the former being to the latter as 95 to 81. The theory of respiration which that professor has founded on the law of diffusion is very simple and satisfactory. It is to this effect: there is a law that gases displace each other, and their displacement occurs in a direct relation to their specific gravities; thus 95 volumes of oxygen displace 81 volumes of carbonic acid. Granted; but the 95 volumes of oxygen occupy more space than the 85 volumes of carbonic acid, consequently, when the oxygen enters the air-cells it must cause distention of their parietes, and thus supply a stimulus to the necessary respiratory movements. It would seem, therefore, as a consequence of this law of diffusion, to which I believe no objection is alleged, that oxygen must necessarily displace a smaller bulk of carbonic acid, and a considerable degree of verification is thus given to the experiments of Lavoisier, Seguin, and Davy.

Formation of Urea.

Now, being possessed of the above data, we can easily create a formula, after the manner of Liebig, showing the production of urea, water, and carbonic acid, from

the elements of fibrine or albumen. We must first subtract from the fibrine all the nitrogen and other elements in the proportion to form urea; then combine the remaining carbon with a sufficiency of oxygen of the atmospheric air to form carbonic acid. If we then take one-fifth of the same amount of oxygen, and which we may suppose to be taken into the system in excess, adding it to the oxygen yet remaining in the compound, and combine the whole remaining quantity of oxygen with the remaining hydrogen, we shall find that the equivalents will be in the exact proportion to form water. Thus,

Fibrine.....	C48	N6	N36	O14
Subtract 3 eq. of urea	6	6	12	6
	42		24	8

Now, one equivalent of carbon combines with two equivalents of oxygen to form carbonic acid; consequently, forty-two equivalents of carbon require eighty-four equivalents of oxygen. These eighty-four equivalents of oxygen enter the lungs by respiration, with also an additional fifth, or nearly seventeen equivalents more; if we add these seventeen equivalents to the remaining eight, we have twenty-five equivalents, which is only one more than is necessary to combine with the twenty-four equivalents of hydrogen to form water. Thus

	C42	H14	O8
			101 equiv. of oxygen being added.
	42	24	109
42 eq. car. ac.	42		84
24 eq. water		24	24
	42	24	108

being only one equivalent less than the number added.

It is gratifying thus to see the statements of different physiologists so beautifully illustrate each other; and also to observe how accurately the process of respiration is applied to the necessary functions of life. It is probable that the oxygen of the atmospheric air first combines with the carbon and hydrogen to form carbonic acid and water, and leaves the remaining elements of the fibrine in the exact proportion to form urea.

But in cases of disease where the lungs are congested, or are suffering under any other lesion which precludes the free admission of atmospheric air, the carbon and hydrogen of the solids cannot combine with a sufficiency of oxygen to undergo complete decomposition, and the excess of carbon and hydrogen will therefore necessarily combine to form oily matter. Now, this position to which we might *à priori* be led by the assistance of the foregoing data, I have confirmed by observation; and, in fact, it was observations of this kind that first actuated me to explain the phenomena that came under my notice. But the analysis of the formation of oily matter will be considered under the succeeding head.

Oily Matter, Colouring Matter, and Uric Acid.

I have united these for consideration, because I believe that there is a peculiar connection existing between them, having commonly found these principles bearing a mutual relation in the urine. The colouring matter of the urine may be in excess when there is an excess of uric acid, so likewise of the oily matters. These last, however, I have seldom found in great excess, unless when there was an accumulation of the azotised elements in the urine. At the onset of typhus, as well as during other ephemeral fevers, I have found in the urine a deposit of phosphatic salts, and an oily film swimming on the surface of the liquids, but, even in these cases, I have commonly met with an excess either of urea or uric acid. Indeed, although this excess has been usually very slight, I do not remember nor have I recorded a single exception to its occurrence. In these cases it would appear that the alkalies, soon after exposure to the atmosphere, form new combinations, and give up the oily matter with which they were formerly combined. Urine possessing these characters often yields a very powerful animal odour during its passage. It must not be conceived, however, that the urine, throwing down a dense white deposit, and exhibiting an oily film, contains a greater quantity of oily matter than all other descriptions of urine, where the oily matter is not apparent. It appears rather that the film arises from the feeble affinity between the acid of the oil and its base, because when there is an excess of uric acid and ammonia, there is a much larger proportion of oily matter; and yet, after standing, the urine will not often exhibit a pellicle. This is a point that gives a denial to our first impressions; but it is, nevertheless, correct, and is of considerable importance in the consideration of the different lesions and causes of disease.

The decomposition of fibrine, &c., is not the only source from which oily matter is derived; there is always an available amount of ready-formed adipose matter in the system; and, in the commencement of febrile diseases, when the digestion is inactive, this is the source whence the greater portion of oily matter finds its way into the urine, thus explaining why it should be in excess when the nitrogenised principles do not so decidedly preponderate. This oily matter is evidently taken up to supply waste; but on account of a perversion of the action of various organs much of it does not undergo the changes necessary, and it is therefore elimi-

nated by the kidneys. But that this is not the principal source of the oily matter in the urine at later periods of the disease, is certain from the fact that this matter abounds most in typhus towards the termination of the disease, when there is no fat left to be taken up by the absorbents, and when the nitrogenised principles are also more particularly abundant.

Colouring Matter.

The free colouring matter of the urine does not seem to be dependent upon the condition of the uric acid, inasmuch as the urine may be of a very deep colour when the uric acid is in small quantity, and *vice versâ*. Nevertheless, an excess of uric acid in febrile diseases is more usually accompanied by an excess of colouring matter; and, for reasons which I am about to detail, I am disposed to conclude that uric acid in solution is always combined with colouring matter in a certain chemical union; that, in fact, in the urine there is free and combined colouring matter. It would further appear that the peculiar hues which the salts formed from uric acid by the action of nitric acid exhibit, are attributable to the combined colouring matter. I am not singular in this opinion. Duvernoy, who seems to possess an intuitive skill in deriving apt conclusions from his experiments, has expressed the same idea.

If liquor potassæ be added to healthy urine of a sufficiently deep colour, a *greenish* hue is produced at first, and subsequently the fluid is deprived to a certain extent of its colour. If, on the contrary, nitric acid be added, *the spot on which the acid falls is rendered clearer, with a very perceptible light rosy tinge*, which is evanescent, and the urine eventually loses its colour. The tinge above named is not deepened by ammonia. Now, if urine be taken containing an excess of uric acid, and liq. potassæ be added to it, the green hue is produced as before, with the addition of a vivid carmine halo, which is proportionate to the quantity of superurate of ammonia contained in the urine. If, instead of liq. potassæ, nitric acid be added, the urine is reddened where the acid falls, and the halo is light green; and if to this ammonia be added, the colour is rendered of a deeper red, which is permanent. In the first instance, there is only a single reaction; in the second, the reaction is double: in the first case the reddening by nitric acid is evanescent; in the second it is permanent, and is deepened by ammonia. These appear to me to be essential differences.

The colouring matter of the urine has never been obtained in a free state, in order that it might be subjected to chemical analysis; but I shall adduce reasons for showing that it bears considerable analogy to the colouring matter of the blood, and is, perhaps, identical with the latter. For the determination of this point I used a modification of Mandl's process (described in a late number of THE LANCET) for the discrimination of the colouring matter of the blood from that of other dried animal fluids. Mandl's process is the following:—Suspend the texture on which the blood is deposited in cold distilled water, taking care that the vessel is not shaken. After a certain time, reddish filaments will stretch down from the texture to the bottom of the vessel, to which they will fall by degrees, giving a reddish colour to the lower strata of the liquid. At the same time the spots on the texture will become discoloured, and covered by only a thin layer of a greyish-coloured substance. This is fibrine, with a proportion of the red particles remaining undissolved; the reddish filaments descending to the bottom are, on the contrary, globules of colouring matter. The texture must be carefully removed; and if the remaining liquid be stirred, it will acquire a rosy tinge. Heated gradually to near the boiling point it becomes turbid, and either deposits flocculent albumen, or assumes a pearly appearance. If flocculent matter be thrown down, it is of a greenish grey without a tinge of red or [rose colour; and the supernatant fluid, if not destitute of colour, is of a light greenish-yellow. If the liquid be treated with pure potass, it assumes a colour which is *greenish*, or rosy, according as viewed by reflected or refracted light. Now, it is the latter part of this process that concerns me more particularly, in which the colouring matter contained in the supernatant fluid is by heat rendered of a *greenish-yellow* colour, and which, by reflected light, is observed to be *greenish* after the addition of *pure potass*. My plan in the main was similar to the above. I obtained some fluid that had been effused into the pericardium, and which had become slightly mixed with blood. This fluid was allowed to stand for two days; the fibrine with some colouring matter attached was then carefully removed, and the albuminous portion was also poured off. Water was now mixed with the red particles remaining at the bottom, until it became of the same tone of colour as ordinary urine. On adding liq. potassæ it assumed a *light green* colour, which was gradually lost; on adding nitric acid instead of liq. potassæ, it became clearer, with a very *delicate rosy hue where the acid dropped;* but on continuing to add nitric acid the liquid became blanched. It thus exhibited precisely the characters of the free colouring matter of the urine; and there is, consequently, every probability that the colouring matters of the blood and urine are essentially the same.

Analogy between the Colouring Matters of the Urine, Bile, and Blood.

How far this analogy may hold good with regard to the bile I have not investigated;

but the researches of some continental chemists tend to make an affinity probable. The bile also contains iron. Whether this be the principle chiefly engaged in the production of the colour of the blood or not, is still undetermined by chemists; and so far as experiment and reasoning as yet authorise, we are bound to incline to the negative of the question. It is, however, an obscure subject, and it is not improbable that the iron is in some way essential to the colouring principle, and present at the development of some of its characteristics. I am not aware that iron has ever been discovered in the urine; but I should not be surprised if it were to be obtained.* It is no argument hostile to the identity of the colouring principle of the urine with that of the bile to allege that when bilious colouring matter enters the urine it answers to its proper tests. For though this is generally the case, yet, at the commencement and towards the termination of jaundice, when bilious colouring matter has evidently been floating in the circulation I have not always found it in the urine, notwithstanding that the urine has been of a deep colour. Granting the general proposition, we must remember that when the kidneys are called upon to secrete any particular principle in a large amount, they suffer it to escape unchanged, though the same principle passing in smaller quantities generally undergoes elimination into other compounds.

Uric Acid.

A deposit of uric acid, commonly called the latritious sediment, takes place at the crisis of typhus fever. This is a matter of universal credit; there is little or no excess of uric acid until the stage of reaction from the diseased state; before this period urea is the only azotised principle in excess. We have here, therefore, an important means of diagnosis. In this stage of fever the urine holds in solution a much larger proportion of uric acid than the same quantity of boiling water could dissolve, a point which has been a subject of considerable discussion. Duvernoy, as we have seen, attributed the superior solubility of the uric acid in this case to its combination with the colouring matter; now, although I admit the fact of the combination, I do not allow this effect to be a result. Dr. Prout, on the other hand, presumes that the uric acid is in combination with ammonia with an excess of acid, forming the superurate of ammonia. It appears to me, however, that the oily matters always found in excess under such circumstances are in combination with the urate of ammonia, and probably some free ammonia, by which means a greater quantity of uric acid passes through the kidneys in a state of solution than could otherwise possibly be the case. We have, then, a clear ammoniacal soap formed; and thus, by a beautiful provision of nature, the lining membrane of the urinary passages is sheathed so as to obviate the contact of irritating substancees and the substances themselves are deprived of their irritating quality. The oily matters can be separated from this combination by reagents, such as the sulphate of iron, &c, or by ether.

Origin of the Uric Acid.

Whence do we derive the uric acid? I have stated that the urea is a result of the decomposition of fibrine, albumen, &c., and I now suggest that the uric acid is the product of the decomposition of the red particles of the blood in particular. In typhus fever we are well aware that the colouring matter is not properly arterialised, or, in other words, does not combine with oxygen in the healthy proportion, and in extreme cases is rendered incapable of so doing even on exposure to the atmosphere. Now in these cases a change has evidently taken place in the composition of the hæmatosine. If venous blood in a healthy state be exposed to the air, it combines with oxygen, and becomes red; but, after a second combination, it cannot be affected by oxygen: or, even if that portion of the colouring matter which has been kept for a few days beneath the serum, and has never been oxygenised, be afterwards exposed to the air, it will not undergo the usual changes. The inference to be drawn from these facts is, that the colouring matter has combined with an excess of carbonic acid of the atmosphere, which had deprived it of its distinctive characters. The same effects take place within the body. In the early stages of typhus the blood answers to the presence of oxygen; but at a later period it begins to lose this quality, and at length only a small portion of it will combine with the oxygen of the air. It is very clear that this is the most important point in the chemical pathology of typhus; for, if the colouring particles, being (as Liebig aptly terms them) the carriers of oxygen, cannot combine with oxygen, none of the functions dependent upon the presence of this gas can be fulfilled, and death must ensue. But

* In THE LANCET of Dec. 31, 1842, there is an account of a patient who, suffering under enlargement of the liver and spleen, passed blue urine. There did not appear to have been any other peculiarity in it. It is further observed that Schinitz has recorded three similar cases, in one of which there was disease of the abdominal organs; the other two were syphilitic. Is it not highly probable that in these cases the iron of the bile was secreted with the urine, and underwent a combination with the products of decomposing urea, in a similar mode to the one narrated under the head of tests for urea? This, I conceive, is the only feasible explanation of the phenomena.

these particles so diseased must be eliminated from the system, or the health cannot be renovated; and it is in consequence of the elimination of the hæmatosine that uric acid, and that portion of the oily and colouring matters that seem invariably to accompany it, are discovered in the urinary excretion. As an intermediate step, however, these principles would undergo some modification if the liver were in a healthful condition, and they would not be found so abundantly in the urine; for when uric acid, like urea, is very copious in the urine, I have generally found hepatic disorder. I am well acquainted with what Liebig has written respecting the functions of this organ; but I cannot on this account overlook the results of my experience. Presuming, therefore, to differ from Liebig (if, indeed, we can be said to differ, where one treats of a physiological and the other of a pathological condition), I shall make use of his mode of showing the transformations which seem to take place on the conversion of colouring matter into uric acid and oily matter, &c.

Formation of Uric Acid.

The colouring matter of the blood differs in some points from fibrine, though more closely allied to it than to any other animal principle. According to Michaelis 1003 parts of the colouring matter of venous blood are composed of—

Carbon	532.31
Nitrogen	173.72
Hydrogen	77.11
Oxygen	216.66

If we would reduce these numbers to equivalents we must proceed in this manner: 1 atom of carbon weighs 76.347, of nitrogen, 177.04, of hydrogen, 12.478, and of oxygen, 100. Divide 532.31 by 76.347, to ascertain the equivalents of carbon, and so on for the rest. The results will be these, as indicative of the equivalents of each element in the composition of the colouring matter of venous blood.

C 6.972 N .983 H 6.261 O 2.166

We shall, therefore, for the sake of convenience, reduce this calculation to the nearest approximation in whole numbers. If we take 4 equivalents of colouring matter, and add to each 1 equivalent of carbon in excess (necessary to prevent arterialisation), the proposition stands thus:—

		C	N	H	O
4 eq. of hæmatosine		28	4	25	9
4 eq. of carbon		4			
		32	4	25	9
4 eq.	1 eq. uric acid.	10	4	4	6
	2 eq. oily matter	22		20	2
	1 eq. water			1	1
		32	4	25	9

By this calculation we perceive that the diseased colouring matter easily resolves itself into the identical principles which I have very generally found in the urine at that stage, when we might expect these colouring matters to be thrown off.

When should we expect that the colouring matter so diseased would be excreted from the system? At that stage when the skin begins to look less livid and dusky, when the eye gets brighter, and the pulse firmer; in short, in the stage of the reaction: and it is in this stage that we find an excess of uric, acid in the renal excretion. The elimination of uric acid is necessary to recovery, though, of course, the quantity eliminated will depend upon the amount of disease, and the various conditions of other organs.

It will be observed that I have added carbon instead of carbonic acid to the blood, in the foregoing formula. It is not at all improbable that there is decomposition of carbonic acid in these cases, by which the carbon is fixed and the oxygen set free to form new combinations, as we observe to take place in the respiration of plants under the influence of light. It may possibly be that this decomposition of carbonic acid is the cause of the non-oxidation of venous blood.

Enfield, January, 1843.

*** A second paper on this subject will detail the mode of production of typhus fever, and a new view of the functions of the absorbent system. A third will comprise the treatment of the disease in question.

INVARIABLE BENEFIT OF MINERAL ACIDS IN DROPSY.

Dr. Trusen, of Posen, in a memoir in a late number of "Hufeland's Journal," states that he has found mineral acids, as recommended by Alix, Meyer, Barez, &c., of universal benefit in dropsy not dependent on disease of the respiratory organs, or extensive disorganisation of the liver. The principal medicines of this class employed by M. Trusen are the acid-elixir of Haller and phosphoric acid. The former is useful in dropsies of an adynamic character, those consequent on intermittent fevers, and others due to checks of the perspiration or other secretions. The phosphoric acid is suitable in cases of dropsy owing to an altered condition of the blood, those supervening after diarrhœa, dysentery, chlorosis, &c. He has seldom occasion to give purgatives to patients under the influence of the above medicaments, which of themselves insure a free action of the bowels; but, in some obstinate cases, he has availed himself of the aid of alcoholic vapour-baths to produce a sudorific effect. M. Trusen remarks, in the course of his memoir, that the extensive tumefaction of the scrotum, which presents so marked a tendency to terminate in gangrene, yields, however, under the use of detergent lotions of vinegar, muriate of ammonia, and water.

ACCIDENTAL POISONING BY IODINE.

To the Editor of THE LANCET.

SIR,—You will oblige me by giving the following case insertion in your valuable periodical. I am, yours, &c.

LEONARD BUCKELL, M.R.C.S.
Chichester, Feb. 4, 1843.

Mrs. A., ætat. 36, married, and having one child; is of light complexion, and nervous temperament, generally enjoying good, though not robust, health. She has a tumour situated *opposite and over* the sixth and seventh cervical, and first and second dorsal vertebræ, that has been five years attaining its present size, which is about that of a hen's egg, and has lately been treated by applications of nitrate of silver, with evident diminution of the swelling, and decrease in the pain which has always attended it. The nitrate of silver was applied for the last time on the 22nd January.

23. Eleven, a.m. The caustic has excoriated the surface, but the tumour remains unaltered. Ordered the external use of the tincture of iodine, diluted with half its own measure of spirits of wine. When this application came in contact with the excoriated portion of the swelling the patient instantly experienced violent pain, and a sense of weight in the epigastric region, attended with universal tremors, faintness, cold and profuse perspirations, extreme collapse of the countenance, involuntary twistings of the arms, particularly the right, chattering of the teeth, inability to stand, and a pulse small, weak, and slow. To this condition were quickly added violent vomiting and spasm. The patient was with difficulty removed to bed, when some gin and water were administered, and a hot fomentation was ordered to the epigastric region, after which the following draught was given every two hours:—

℞ *Compound tinctures of cinchona bark* and *cardamoms*, of each three drachms;
Comp. spirit of ammonia, a drachm and a half;
Peppermint water, an ounce and a half. Mix for a draught.

Seven, p.m. Pain and weight at epigastrium considerably relieved by the treatment. General pain, however, much increased, and vomiting is induced by assuming the erect position. Urine is continually dribbling away, attended with a constant desire of voiding it; feet cold; pulse weak and tremulous; bowels constipated. Apply bottles of hot water to the feet, and give a tablespoonful of castor oil every three hours until the bowels act freely.

24. Eleven, a.m. All the distressing symptoms are much relieved, though still aggravated upon rising in bed. Urine can be retained for an hour or more. Menstrual discharge has commenced, though not very profusely; the patient had been unwell eight days previously; bowels freely opened by the castor oil. Continue medicaments.

25. The patient considerably better; but suffering now from extreme debility, with a pallid face and a tremulous pulse; appetite very bad; bowels confined. Repeat the castor oil.

30. The patient has now recovered her accustomed strength and health; the catamenia had ceased on the day before; tumour very considerably lessened.

Here is a case in which the absorption of a very small portion of iodine into the system produced symptoms of an alarming character, dependent perhaps, not so much on the quantity of iodine entering the system, as upon some peculiarity in the constitution and condition of the individual upon whom it was used, since not more than four or five drops of the tincture had been applied before the above symptoms were produced.

CARCINOMA OF THE UTERUS UNATTENDED BY LOCAL PAIN.

A FRENCH practitioner has reported an instance of this kind as having taken place in a woman of forty-five years of age, who had had three children, delivery in each case having been effected without accident. Her general health appeared to be good, till one day, during a walk, she experienced a sudden and alarming uterine hæmorrhage. This was fortunately subdued; but for two months succeeding the patient was frequently in an ailing condition, though without absolute pain; and hæmorrhagic discharges from time to time occurred. At length the skin assumed a jaundiced hue, and after four days of violent pains in the lower extremities paralysis of these limbs supervened, bluish patches were perceived around the ankles, the functions of the body became much disturbed, and hectic fever ensued. The pulse fell, the surface became cold; gangrenous spots covered the upper extremities, and the patient rapidly sank. The uterus after death was found enlarged to ten times its natural size, and weighed considerably more than two pounds. Its outer surface exhibited no unusual appearance, and its muscular structure was healthy; but its mucous membrane was everywhere covered with small hardened bodies agglomerated together, and presenting a scirrhous aspect. No mechanical pressure seemed to have been exerted by the organ on the iliac arteries or veins, or on the sacral plexus of nerves, sufficient to account for the pains felt in the extremities, which must accordingly be attributed to some nervous sympathy.—*Gaz. des Hop.*

RELATIVE VALUE OF QUININE IN LARGE DOSES, AS A REMEDY IN TYPHUS.

The successful results of the practice of Sig. Broqua have been already noticed in The Lancet (page 289). But a commission appointed to examine into the correctness of a memoir addressed by Broqua to the French Academy of Medicine, reports that some of the cases cited in the memoir are not proved to have been of a veritably typhoid character, and in others no proof is adduced of the quinine administered having been the means of cure. The report of the commission (if not belied by the journal which informs us of its presentation) sarcastically enough remarks, that "one interesting fact confirmed by Sig. Broqua's memoir is the *harmlessness* (l'innocuité presque constante) *of the sulphate of quinine* in large doses;" and it recommends that the memoir should be *honourably* shelved! In the discussion that followed its reading, M. Piorry stated, that in typhus fever, with engorgement of the spleen, he had seen quinine prove serviceable, which not been the case when the fever was unaccompanied with splenic lesion. M. Martin Solon, who had employed the remedy under the personal inspection of Sig. Broqua at the Hôpital Beaujon, admitted that in cases in which the fever assumed a remittent type quinine was useful, but that remittent typhus was rare,—at least at Paris. "Of five severe cases of typhus fever, in which quinine had been given, death had resulted in three instances; and in the two others, recovery had only taken place after a considerable lapse of time, and without any evidence to show that the sulphate of quinine had been the means of hastening it. In the post-mortem examinations of the subjects who had died (says M. Martin Solon), I failed to detect any peculiar alteration that I could fairly attribute to the large doses of the sulphate; it had passed in a manner imperceptibly through the stomach and intestines. A symptom I observed in those who recovered from the disease was a remarkable depression of the circulation. In short, I consider the advantage attributed to the sulphate to be more than doubtful." Much doubt was afterwards expressed by several members of the academy as to the *innocuity* of large doses of quinia or its sulphate; but finally the terms of the report were adopted, and the memoir was shelved by a majority of voices.—*Gaz. des Hop.*

ABSENCE OF THE STERNUM AND PECTORAL CARTILAGES.

This unusual abnormal accident is reported to have occurred in an infant otherwise well-formed, and born of a healthy mother. By an arrest of development analogous to those causing cleft palate, spina bifida, &c., the sternum was wholly absent, nor could a vestige of cartilage representing it be discovered. The costal cartilages seemed to be absent also, though the ribs apparently coalesced in front, presenting a convex border on either side towards the abdomen; at their nearest point of approximation, in the middle of the chest, they were about two inches apart. Clavicles were present, and the os hyoides and larynx presented no departure from the normal state. In the median line and the upper region of the thorax was a roundish cicatrix nearly as large as a crown piece. During the respiratory movements the dilatation and subsidence of the lungs and trachea could be distinctly observed; and the palm of the hand placed over the region of the heart was made clearly sensible of its systole and diastole, and was even raised by its beating. The mother could attribute the monstrous formation to no cause except a fall she received on her abdomen during an early period of gestation. The child took the breast well, and continued to thrive for about seven weeks, during which the practitioner was in the habit of seeing it, but the case was afterwards lost sight of.—*Hufeland's Journal.*

[A similar case is reported in the French Memoires de l'Academie for 1760; but in that case the clavicles as well as the sternum were wanting.]

AMOUNT OF RESPIRATION RELATIVELY TO SEX AND AGE.

M. Bourgery, in a memoir read before the French Academy of Sciences, asserts that, *cæteris paribus*, respiration is vigorous in proportion as the individual is younger and thinner. No condition is so productive of energetic respiration as youth. The respiration in a man of a given age is double the amount of that of a woman of the same age. At thirty years of age, the period of plenitude of the respiratory powers in both sexes, a man usually respires (*respiration forcée*) from half a gallon to a gallon (2.5 to 4.3 litres) of air (per minute); and a woman, from a quart to less than half a gallon in the same time. A boy of fifteen respires nearly half a gallon; and an old man of eighty, about three pints of air (1.35 litre). A strong man of thirty respires as much as two men of feeble constitution, boys of fifteen, or strong women; and four women of feeble constitution, boys of seven, or old men of eighty-five years of age. The respiration of a strong woman is accordingly equal to half the above amount, as estimated by M. Bourgery. According to the same authority, the faculty of respiration becomes impaired throughout life by successive ruptures of the air-cells, which inevitably attend

all extensive respiratory efforts and other causes. Though these become more frequent as age advances, they occur likewise in infancy, and from the mere respiratory act. All diseases of the lung, however slight, tend also to incapacitate that organ.—*Gaz. des Hop.*

SCANDALOUS TRICK SUBSEQUENT TO AN INQUEST.

In inserting the following communication, which appeared in *The Times* newspaper of Wednesday, February the 21st, we have merely to remark, that we shall have something additional to publish on the same subject on another occasion. The inquiry cannot rest at its present stage. That a scandalous fraud has been committed, little doubt can be entertained by any impartial person, and we believe that we shall be enabled at no very distant time to drag the real culprit before the public:—

INQUEST AT HORNSEY.

To the Editor of "The Times."

Sir,—We, the undersigned, having been the jury who sat on the body of the late Mr. Henry Pledger, chemist, of Hornsey, having read in *The Times* of Thursday, February the 16th, some statements relating to the inquest, think it right to offer to you for insertion the subjoined refutations of certain of the allegations therein contained.* The inquest was held on Tuesday, the 7th of February, and it is stated by the writer of the paragraph, published in *The Times* of the 16th inst., that "reports were soon spread that he (Mr. Pledger) had died from the effects of poison." We reply that no such reports existed at Hornsey,—no suspicion whatever was entertained there that Mr. Pledger had either destroyed himself or had taken poison.

The writer further states that the report that Mr. Pledger had so died "came to the ears of the parish beadle," who "thought it his duty to circulate the report, by waiting upon Mr. Wakley, the coroner." The beadle, Mr. Crouch, has this day stated in our presence that, previous to the inquest, he never heard, and therefore never conveyed to the coroner, any such report.

Lastly, it is stated in the paragraph that "the coroner is reported to have used the following words, at the same time lifting up the deceased's head, 'Ah, gentlemen, this is a sudden death; the man has died from a diseased heart, I've no doubt; there will be no occasion for a medical man.'"

At the inquest one of our number said to the coroner (after the testimony of three witnesses had been given), "Should not the medical man who saw him after death be called in, Mr. Coroner?" to which the coroner replied in the following words:—"I have no opinion to give, Sir; but, if you have any suspicion that he died from any other than a natural cause, then there must be an examination of the body, as it is quite useless to have him here for the mere purpose of stating that he does not know what was the cause of death, for it is certain that he could not tell you that cause unless an examination was made."

One of us then stated that not the least suspicion was entertained that the death had occurred from any other than a natural cause, and another juryman confirming this (and the opinion was unanimously agreed to), added (as expressive of the feeling of

* The following was the paragraph which contained those statements:—

"A Slight Mistake.—For the last few days the little suburban village of Hornsey has been roused from its ordinary quietness in consequence of the sudden death of a young man named Pledger, carrying on the business of a chemist in that neighbourhood. Reports were soon spread that he had died from the effects of poison, which coming to the ears of the parish beadle, that functionary thought it was his duty to circulate the report by waiting upon Mr. Wakley, the coroner, who ordered an inquest to be held. The jury was empanelled on Wednesday last, and on viewing the body with them, the coroner is reported to have used the following words, at the same time lifting up the deceased's head:—'Ah, gentlemen, this is a sudden death; the man has died from a diseased heart, I've no doubt, and there will be no occasion for a medical man.' The jury returned to the inquest-room, and, after hearing evidence as to the suddenness of the deceased's death, returned a verdict of 'Natural death.' The friends of the deceased, not being so fond of doing without medical testimony as the coroner, determined on having the body opened, and the actual cause of death explained. Accordingly Mr. Baker, of the New North-road, and Mr. Hands, surgeon, undertook the post-mortem examination, and on opening the abdomen there was a strong smell, like prussic acid. On opening and analysing the contents of the stomach, nearly an ounce of the essential oil of almonds was found, enough to kill upwards of a dozen persons, and from the effects of which Mr. Pledger had died. On the result being made known to the friends, it was understood that the whole facts would be laid before the Middlesex magistrates, and that proceedings would be taken to quash the inquisition. The above shows the necessity of post mortem examinations in all cases of sudden death, without taking the dictum of either a medical or a non-medical coroner as to the cause."

the whole jury), that we did not consider, as neighbours well acquainted with the deceased, that there was the least necessity for the evidence of a medical gentleman.

On the coroner being asked what he himself considered was the cause of the death, he replied, "that he had had too much experience in the office of coroner to speculate on so obscure a matter;" that "an external view of the body was in nineteen cases out of twenty of sudden death, medically considered, perfectly useless, and afforded no medical information whatever;" and that "if any doubt or suspicion of wrong-doing in the present case was entertained by only one of the jury, a majority of them had the power to direct him to summon a medical witness to appear at the inquest to satisfy their doubts by a post-mortem examination of the body." The jury again gave the coroner to understand that no such doubt or suspicion existed amongst them.

The first witness who was called before us was Caroline Martin, a servant of the deceased, who stated, on oath, that she found him, at eight o'clock in the morning of the 4th of February, lying insensible, and perhaps dead, behind the counter in his shop, which he had just before gone to open; that she at once called in her fellow-servant, and that the dead body was taken into the parlour adjoining the shop; that a surgeon, Mr. Hands, was sent for immediately, and came and examined the body externally; that she had seen the deceased on the night before, that he then seemed to her to be perfectly well and in good spirits, and that he did not complain of anything being the matter with him or of anything else; that he had not, that she knew, met with any injury or violence; that she had not the least reason for believing that he had taken anything to destroy himself, but that she believed he had died a natural death.

Martha Tribe, also a servant of the deceased, stated that she was called by the last witness to see the body of Mr. Pledger as he lay in the shop; that she had not seen him on that morning before, but had seen him at eleven o'clock the previous night; that he most certainly, as she believed, did not destroy himself; that she had never heard him talk of destroying himself, or wish that he was dead; that she felt perfectly assured that he had died from a natural cause, and not otherwise; that nothing whatever had occurred while she had been in his service to induce her to think that he had taken, or had ever contemplated taking, poison to kill himself.

Ebenezer Pledger, brother of the deceased, stated that he had seen the body of the deceased about an hour and a half after he was found dead; that no circumstance whatever had occurred to raise a suspicion on his (the witness's) mind that his brother had destroyed himself, and that he was thoroughly and perfectly satisfied that his brother had died from a natural cause.

In short, Sir, there could not be elicited from the witnesses, during the examination, the slightest evidence to induce us to believe that Mr. Pledger had taken anything to produce his death. He had resided in the village of Hornsey for nearly nine years, and, from his general conduct, not one of us entertained the least suspicion of his having taken poison. In fact, not any doubt was felt amongst us that his death arose from any but a natural cause. No influence was used by the coroner to affect our decision, other than the clear exposition of his views that he stated as above quoted.

We feel that these facts ought, in justice to the coroner and jury, and the relatives, to be laid before the public, in contradiction of the insinuation that is contained in the paragraph to which we have directed your attention, and we have the honour to remain, Sir, your very obedient servants,

THOMAS ROWLEY, (Foreman,) WILLIAM COOPER, JOHN MORRISFIELD, CHARLES DAVIES, JOSEPH BRETT, JOHN CLANTY, WILLIAM HARRIS, EDWARD ROBINSON, EDWARD ELLIS, WILLIAM SYMES, JOHN BALE, JAMES TURNBULL, CHARLES PROUGHTEN.

The late Inquest-room, King's-head, Crouch-end, Hornsey, Feb. 20.

P.S. We earnestly hope that, as an act of justice to all parties concerned, the editors of those papers who copied the paragraph from *The Times* will publish the above contradiction of its false allegations.

The following communications have also been sent to us (*The Times*) for publication:—

"To Mr. THOMAS WAKLEY, Coroner.

"Hornsey, Feb. 20.

"Sir,—In consequence of your application to me this day respecting the statement in *The Times* of the 16th of February, headed, 'A Slight Mistake,' I beg to send you the following particulars:—

"On the morning on which Mr. Pledger died I saw Mr. Hands, the highly respectable surgeon of this place, as he was coming from the house of Mr. Pledger, just after the death, he having been called in by the friends the moment the body was found, when I asked that gentleman, as was my duty before sending information to you, what he considered was the cause of death, and his reply was that Mr. Pledger had died in an apoplectic fit, produced, he believed, by disease of the heart, and that Mr. Pledger had told him that he had had that disease for many years, I said, 'Then I presume there was no suspicion that the death was produced wrongfully?' to which he replied that no such suspicion existed, and that apoplexy from disease of the heart was a very common cause of death in such cases. Accordingly, I wrote to you, Sir, and until

Friday, the 17th of February, namely, ten days after the inquest was held, and thirteen days after the death, neither I nor any other person whom I had seen in Hornsey had heard any rumour whatever that the death was caused by poison, and I beg to add that up to this moment I firmly believe that the death was natural. I am, Sir, your's respectfully,

"ROBERT LUCAS CROUCH,
"Constable of Hornsey."

"After a careful consideration of all the facts and circumstances relating to the death of my brother, Henry Pledger, and all the recent events of his life, I feel perfectly assured, notwithstanding the allegations contained in a paragraph in *The Times* of February the 16th, under the head 'A Slight Mistake,' that my brother died a natural death, and did not take poison to destroy himself.

"EBENEZER PLEDGER."
"Hornsey, Feb. 18."

FOREIGN BODY IN THE BRONCHUS SPONTANEOUSLY EXPELLED.

DR. WANDESLEBEN, of Stromberg, reports the case of a man, forty-six years of age, who, having drunk some liquid, had swallowed with it a piece of a wooden spoon, which at first caused symptoms of imminent suffocation, succeeded by violent coughing, that only gradually subsided. On the following day an incessant pricking sensation was felt between the fourth and fifth ribs on the right side of the chest, and on the day next succeeding a fever set in, which obliged the patient to keep his bed, and was obliged to be combatted by bleeding, low diet, &c. On the ninth day expectoration of purulent matter commenced, the pricking pain ceased, but the pulse and breathing became frequent. From this time the strength rapidly decayed, the lower extremities became œdematous, and, on auscultation, pectoriloquy on the right side of the chest indicated the existence of a cavern supposed to be about the size of a large apple (*du poing environ*). The emaciation proceeded so far that in six weeks' time the practitioner was obliged to suspend all antiphlogistic remedies for the use of tonics. Under this treatment the patient rallied somewhat, and recovered his appetite, in indulging which too greatly he subjected himself to nausea and vomiting. In his attempts to vomit he provoked a violent pain in the right side of the thorax, with much disturbance of respiration, and the cough returned with alarming violence. In one of his coughing fits, however, a hard body was discharged from the lungs into the mouth, which proved to have been the foreign body swallowed, and was about as large as a moderate sized hazel-nut. From this period all the untoward symptoms before described began to disappear.—*Medic. Zeitung.*

THE LANCET.

London, Saturday, February 25, 1843.

THAT "the profession is overstocked" we daily hear exclaimed, and the assertion is true. The "profession" *is* overstocked, and with a superabundance of unqualified men, mere speculators in drugs and chemicals. We need not wander far to prove this fact. Wherever that "earth-born giant," London, spreads one of his hundred arms, carrying it into some previously untrodden and almost unknown region, there, long before the clink of the bricklayer's trowel has ceased, and long before the sound of the carpenter's saw is silenced, some glaring emporium, decorated with its red and blue bottles, its mahogany shelves and counters, inlaid with brass, drawers richly gilt outside, and full of air and "empty boxes" within, presenting, in short, the *tout ensemble* yclept a "doctor's shop," affronts the sight of the regular practitioner, and offers its poisons to the ignorant passenger. Long before the grocer, the butcher, the cheesemonger, and others that administer to our daily wants, appear in the neighbourhood, the vender of drugs, under the popular name of "doctor," is surrounded with all the panoply of his self-adopted calling, so that eating and drinking seem to be matters that are altogether subordinate to the taking of pills; and a Chinese, who might be uninitiated in London life, witnessing some of these displays of coloured jars and uncouth symbols in scarcely tenanted places, would be confirmed in his opinion, that the "barbarians" could not live a day without "rhubarb."

Many showmen of this class call themselves surgeon-accoucheurs, albeit neither surgeons nor accoucheurs, but some *ci-devant* druggist's apprentices, or active and clever shop-boys, who, having collected a little knowledge of the bottling and labelling business, and by friends' help assembled together money enough "to open shops," announce

Seidlitz powders at sixpence per dozen, leeches at twopence each, ointments in your own pots, and pills "in your own boxes," at threepence an ounce, and six a penny; presently begin, as the population increases, to tamper with coughs, colds, sprains, rheumatisms, and fevers; and become entitled by the newly-arrived nurses and housemaids (and by-and-by by the "missises") "the doctors," while the educated practitioners are deprived of their legitimate means of obtaining a subsistence. Reflecting persons, indeed, doubt if the outlays of this mushroom class obtain adequate returns for the capital expended; for, emulous of their mercantile congeners, the medical haberdashers of the metropolis incur such extravagant expenses in their shops, that, in a few months, their funds exhausted, and their credit affected, their landlords, or Messrs. HERRING, press their claims too urgently, and the tenants and debtors decamp, only, however, to make room for fresh adventurers, the mischief to the regular practitioners not terminating with the disappearance of the first invaders. The new occupiers of the vacant niches may, indeed, be subject to the fate of their predecessors, but others and still others succeed, until some one with an ample purse and shrewder head appears, and holds his ground. However numerous may have been the proprietors, the "doctor's shop" stands where it did—an "old established" house—and by the time that a flourishing neighbourhood has grown around it, a large proportion of the disease therein has become the "*prescriptive* right" of the last proprietor.

Men who scorn to make their liberal profession a trade, complain of this usurpation of their rightful field of profit, and of this degradation of medicine, in vain; but are not they themselves to blame? What earnest, active, energetic measures have they severally taken to reform the wrong?

There are some persons who ascribe these evils to another source. They complain of the too large number of apprentices that are taken by qualified practitioners, and then loosed upon the world, without adequate knowledge, perhaps not with the means of completing their legal qualifications for practice. These censors of the evil argue thus: "The multiplicity of the young men," say they, "sent forth into the world as surgeons "and apothecaries, fritters down practices "to an insignificant extent, and *obliges* many "practitioners to resort to the collateral "aid of shopkeeping, to eke out an income "adequate to meet their expenses. No "doubt that many of the drug-doctors are "mere druggists, with no more right or "licence to prescribe than (were a just "medical law in force) they would have "*to make up prescriptions*. But it is equally "notorious that many of the individuals who "now render medicine a matter of mere "retail traffic are actually licentiates of "Apothecaries' Hall, persons for whose apprenticeship a premium, but a very moderate premium, has been paid, and who, "but for that moderate consideration, would "never have been admitted into the ranks of "the profession. Do not suppose," continues such a declaimer, "for an instant that "I would desire to exclude from our ranks "all but those who can afford an expensive "medical education, a plan which I scout "with disdain. My object is simply to convince you that *other causes* must operate "to induce the medical practitioner to break "up the privacy of his family by introducing "into it a number of pupils, the premiums received with whom are, and must be, in a vast "proportion of instances, wholly inadequate "to produce to himself more than a temporary degree of benefit. Take ten general "practitioners, at random, and ask each "'What was your object in receiving a pupil?' "and in nine cases out of the ten the reply, "without hesitation, will be, 'Oh, the pupil "is useful to me in putting up my medicines!' The evil in such a case inevitably "reacts upon itself; for, to keep up the "prosperity of a practice that is based on "vicious principles, the practitioner is "obliged to employ a succession of tyros, "and the profession, by the operation of "such a cause, rapidly becomes inundated

"with members; doctor's shops spring up in "every direction around, and curtail his "practice; and when he leaves that to his "son, the latter is fortunate if he be not "obliged to maintain *his* practice also by "drug-selling, as a subsidiary source of "income."

Supposing that we ourselves took up the argument against the defence that pupils are essential to practitioners for their utility in "the shop," we should promptly answer the debater thus. Look to the indentures of apprenticeship. Have the parents or the guardians of the youths placed them under your roof to fold powders, roll pills, cork bottles, and dust counters, or was it to learn the art and science of medicine? Do you suppose that the first three or five years of the pupilage are to be spent in these occupations, leaving the clinical practice and all that is to be imparted by *teaching* to be acquired afterwards, at the time of "attending lectures" and walking the hospitals? You misuse the precious moments of the future surgeon or physician by employing him without instructing him during the term of apprenticeship. And if you take no greater number of apprentices than you can fairly and will positively teach, you will not have one too many under your care; and, then, of *thoroughly-educated* and mentally-qualified young men there cannot be a surplus in the profession. It is with the unfinished, the uneducated, the unqualified, that practitioners now in the field have to combat. But even as all they are too numerous who belong to the latter class, so can there not be, for the public weal, one too many of the former.

But there is another point of view in which we would place the subject under notice. Who, pray, is it that creates and keeps up the alleged necessity for a class of pill-makers and draught-bottlers in the house of the medical practitioner? Who is it that does this in the face of the well-known fact that surgeons in general practice can legally obtain remuneration for their services by charges for time, attendance, and advice, rendering a whole routine of present duties in the shop and surgery almost unnecessary? The decision of Lord TENTERDEN, in the case of HANDEY v. HENSON, long ago settled that question, and subsequent appeals to our courts of law have since amply confirmed the verdict.

Did practitioners, one and all, *charge for their attendance*, and not for their medicines, they would save much trouble, some expense, and a large share of the necessity for occupying pupils in the meaner offices of the profession, the arrangement also materially benefiting the pupil. As the case stands at present, in numerous instances the chief advantage derived from the pupil is in the services of the latter amongst the pills, potions, and electuaries. "Too often," writes an old correspondent, addressing us a short time since on this subject,—"Too "often the interests of the master are alone "consulted, and the pupil, who ought to "have been *taught* also, is merely lodged "and boarded, and at the end of five weary "years, spent in pounding and compounding, "he is sent forth unfit as respects the *pro-* "*fessional* instruction he has derived—aye, "and even after having attended his three "other years of lectures, and played in the "farce of walking the hospitals,—still as "unfit for the practice of anything much "elevated above the venal and mercantile "branch of medical business to which his "attention was confined during his appren- "ticeship."

It cannot be doubted that even were the practice universal to charge for attendance only, many practitioners would still, from choice, furnish the medicines which they prescribe, for the satisfaction of having them compounded under their own eyes. Even under the better system the pupil must not expect to be, nor is it desirable that he should be, wholly relieved from the duties of dispensing: dispensing assistants, although in a very diminished degree, would still be required. But the day of six draughts, with proportionate quantities of powders, lotions, and blisters, weekly, *to pay*

the practitioner, would have passed by; and, with less trouble, less cost, and less necessity for maintaining strangers in his house, the medical man would not only find at his disposal more time to bestow on the scientific and classical part of his profession, but would feel a greater relish for the same by his emancipation from the sordid, grovelling, drenching system. The pupil, no longer a mere gallipot-hack, would find *his* interests also studied, and his mind enlarged by the instruction and companionship of one who was becoming an ornament of a learned profession. The patient, no longer disgusted by the "doctor's stuff," would be required to swallow only so much physic as was intended for his own personal advantage; and the whole medical profession would assume that position in the public estimation to which, as professors of a liberal science, they are entitled.

Our occasional notices, during the last year, of the mismanagement and mal-administration of the medical departments of the Indian army have, we are happy to learn, produced a good effect in the lazy atmosphere of Bengal-proper. The remonstrances of The Lancet against the neglected state of the services, generally, under the leaden influence of superannuated "seniority" boards, its complaints respecting the shameful neglect of all statistical inquiry that could throw light on subjects connected with the climate of India, its diseases, and the results of treatment, so far as "boards" are concerned, have all obtained a hearing in more faithful and energetic quarters than "boards." But the old board of Bengal winces. As the editor of the *Calcutta Englishman* says, "The cap fits, and the shoe pinches." We have one evidence of this consequence in a letter from the secretary to the board, fourteen paragraphs long, framed, however, in the vilest style of Indian writing, besides sundry supplements. We should be glad of space to exhibit, for the amusement of our readers, this notable letter (numbered 499); and which the Indian editor quaintly observes, "will not be readily forgotten by the medical service of Bengal," but as the difficulty of reprinting it exists, we may with safety leave the Medical Board and its flippant secretary to the handling of the gentlemen who are connected with the press in Calcutta. Meanwhile we notice, as a sample of the reasoning powers displayed in the said 499, that in paragraph 10 the Medical Board of Bengal are stated to be unable justly to accuse themselves of "this "fearful amount of mismanagement and "mortality," meaning a certain formidable mortality in her Majesty's service, seeing that, since 1829, there has been an inspector-general of hospitals belonging to the royal service; yet, in the paragraphs 21 and 22 of the supplement, the "favourable condition" of her Majesty's 26th Regt., its good conduct, and temperance, are paraded, after the Bengal Board had emphatically disclaimed any official connection whatever, since 1826, with her Majesty's service! In the Bengal European Regiment, however, actually, directly, and immediately under the Bengal Board's orders, there are announced a "very unfavourable" condition, an "unusual degree of sickness," and an "habitual use of ardent spirits." Pretty well, this, by way of contrast in administration between the two services! But the *proof* could hardly have been expected to come from the party so wanting in duty. Yet there it is, in letter 499, of the Bengal secretary. We should be glad to know who is this overflowing secretary, who lucubrates letters by the hundred, and performs suicide on the board so readily; but no one seems able to supply the answer. Perhaps he is the gentleman who inflicted a certain epic poem on his reluctant countrymen of the north, dedicating the same to the "People of Scotland." Perhaps, also, the following paragraph, taken from a printed report by two surgeons of the Bengal army, prepared in Calcutta in 1839, and exhibiting the condition of the Bengal Medical Department, may have some reference to the gentleman in question:—

"Whenever a medical board is fortunate in the talent, experience, and character of its secretary, there may be some ground of expectation, that with this advantage, even though it can be productive of but little good, it may do no harm. But when, as might happen, the secretary may be wanting in the due administrative qualifications, of which sound judgment, discretion, urbanity, and the respect of the service at large, are not the least, the offices then performed by the board will be obstructive of real business,

or mischievous in important questions, and emphatic in petty interference and legislation, so as to vex and thwart all who have intercourse with that body, and thus render honest zeal and genuine talent comparatively ineffectual."

Good examples, happily, are contagious. The able and vigorous exposition of Liebig's Organic Chemistry by Mr. Ancell, if it has not altogether created the impulse under which the papers on Typhus from the pen of Mr. Ross, of Enfield, the first of which the readers of The Lancet this day possess, were produced, has probably assisted materially to promote the feeling which has elicited them. The papers of Mr. Ross will be three in number. The one with which they commence might have seen the light, in print, two months since, but we took the liberty of withholding it from publication,—with the kind permission of its author,—until those of Mr. Ancell were completed. Mr. Ross is now doing for pathology what Mr. Ancell has done for physiology. The prompt and determined march of organic chemistry, in its application to the vital phenomena which present themselves in health and disease, is highly gratifying to the mind. We heartily concur in the opinion of Mr. Ross, that "the "various works which have lately appeared "in Germany on physiological chemistry "will awaken a spirit of emulation in the "medical ranks of our own country. The "indefatigable researches of a Muller, and "the beautiful theories of a Liebig, cannot "fail to impress us strongly with a convic-"tion of the importance of the subject to "which those eminent men have devoted the "energies of their brilliant intellects." The correctness of this declaration has been already verified in part in the attention bestowed on the subject by Mr. Ancell and Mr. Ross. How many organic marvels daily witnessed,—but the causes of which had hitherto lain unexplained to the majority of the profession,—have been satisfactorily interpreted to them through the aid of those gentlemen! Others will follow their steps, and the archives of medical science may soon cease to present only a heterogeneous assemblage of facts, and medical practice to consist of insecure and pilotless wanderings amidst unexplained phenomena and otherwise unavoidable dangers.

Tic Douloureux and other Nervous Affections; their Seat, Nature, and Cause; with Cases, &c. By R. H. Allnatt, M.D., A.M., London: Churchill. 1841. 8vo. Pp. 184.

This work, though it treats briefly also of hepatalgia, sympathetic headach, and palpitations of the heart, spinal irritation, epilepsy, and other diseases which the author considers as arising from the same causes as neuralgia,—is, for the most part, occupied with discussing the one neuralgic affection specified by name in the title. Dr. Allnatt commences by asserting that the seat of tic douloureux is the parts of the body which are "pervaded by the grey or ganglionic nerves." After some further prefatory remarks on the derivation of the name, and notices taken of the disease by previous authors, he enters upon a general description of the symptoms of tic douloureux, and the various modes of treatment which have been unsuccessfully employed by practitioners for its cure. But before giving an exposition of his own plan of treatment, Dr. Allnatt launches into an anatomical dissertation on the nerves which constitute the ordinary seat of neuralgia facialis; expressing, in this part of his work, opinions which are greatly at variance with those promulgated by Sir C. Bell, and adopted by the majority of physiologists in this country. Dr. Allnatt maintains, with Bellingeri and others, that the fifth pair of cerebral nerves forms a portion of the sympathetic system! This is scarcely the place to argue in opposition to such a notion, which we did not expect at this time of day to be called upon to refute. But it would not be difficult to point out the ill consequences of considering the fifth as a vital nerve, *because* it happens to supply branches to the salivary glands, the muscles of deglutition, &c., or because its chief branches accompany arteries, as do the large nerves in nearly in all parts of the body. Taking into consideration the many connections of the fifth pair with the sympathetic, there is no need to resort to the hypothesis of making them parts of the same system of nerves, in order to account for the effect of irritation in the sympathetic being manifested in the

course of the fifth nerve. Indeed, the author contradicts his own previous position *in toto*, at page 89, where he admits that in nine cases out of ten,—rather than in the expanded branches of the fifth pair, the local mischief occurs "in the ganglionic nerves which accompany these." But howsoever the decision of this question may rest, it does not, after all, seem to carry with it much practical influence on the treatment of tic douloureux. Dr. Allnatt refers the proximate cause of this affection to irritation of some portion of the great sympathetic in the abdomen, its remote causes being disorders of any portion of the chylopoietic viscera, particularly the liver. It is accordingly, he says, most aptly treated by purgatives to relieve the state of the viscera; and that one to which Dr. Allnatt accords a decided preference over the rest is a "a pill combining a small quantity of croton oil with stomachic aperients." His special treatment of tic douloureux, in its various complications, is detailed in a series of cases followed by useful practical observations. The appendix comprises Bellingeri's report of a case in which the supra-orbital nerve was divided, and its ends were cauterised, for the cure of neuralgia (an operation, however, which Dr. Allnatt no where urges as a remedy), with disquisitions by Bellingeri on the uses of the fifth pair of nerves, &c. It is not clear what these disquisitions have to do with the subject of Dr. Allnatt's treatise; and a similar remark applies to an exposition of the anatomy, physiology, &c., of the great sympathetic, which occupies many pages in the body of the work; for books of this kind, which are intended for the use of men in the practical exercise of the healing art, presuppose a knowledge of all such preliminary matters. It must be acknowledged, however, that the work before us is less open to a charge of diffuseness and irrelevance of matter than many other works that could be named; and it is certainly an useful book of reference on the subject which the author has chiefly had in view.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Feb. 14.—Dr. Addison, in the chair.

The following letter, from Dr. O'Shaughnessy to the secretary, was read:—

"Sir,—I have the honour to send herewith, for the inspection of the society, specimens illustrative of the preparations of the Indian hemp of Gunjah.

"No. 1 is a bundle of the dried plant, the leafy part of which is smoked by the natives of Bengal to induce intoxication.

"No. 2. Churrus, or hemp-resin, prepared in Nepaul by the natives, in the manner described in my paper on the subject.

"No. 3. Alcoholic extract of the dried plant, prepared by Mr. Squire, of Oxford-street.

"No. 4. Tincture of the extract of hemp, twelve minims containing one grain of resin. In placing these specimens before the society, I venture to solicit the examination, by that eminent association, of the therapeutic properties which I believe these drugs to possess. I know of no remedy which possesses equal powers as an anti-convulsive agent, and which can be so boldly administered as this: the deep stupor and apparent coma which, in the cases of opium, hemlock, and belladonna, would prove the certain precursor of death, may be witnessed without alarm as the effect of this new remedy. The cataleptic state which it has been seen to produce is, however, by no means an universal result. Hunger and aphrodisiac excitement so constantly observed in the East, seem also to be less prominent effects in Europe. On the whole, our knowledge of the properties and uses of this remarkable agent is still extremely imperfect; I can only pretend to have given an outline which the industry and observation of others will fill up in due season. I am," &c.

Dr. O'Shaughnessy, in answer to a question from Dr. Webster, said that the hemp was employed by the natives to a great extent as an intoxicating agent. Government had instituted a tax of two shillings a-day on the shops were it was smoked, and eight shillings a-day on those places where the confection was eaten. Whether this enactment was for the purpose of attempting to do away with the use of the drug, or as a means of revenue, he could not say.

Account of an Unusually Large Biliary Calculus voided by the Rectum. By James Arthur Wilson, M.D., Physician to St. George's Hospital.

The patient in this case was a gentleman, aged 73, of temperate habits, and who had resided in the West Indies the greater part of his early life; the calculus was voided with fluid fæces from the rectum after many days of exhaustion by hiccough and vomiting. The early symptoms were constipation, loss of appetite, and sickness, succeeded by jaundice. Within a fortnight the urine and fæces recovered their natural appearance, the jaundice disappeared, and the patient resumed his usual pursuits. Shortly, however, all the urgent symptoms returned, with frequent severe hiccough, and for two days the case seemed to be verging to a fatal

termination. On the 17th the bowels, long previously inactive under large doses of purgatives, began spontaneously to relieve themselves, and gave passage to a calculus as large as a full-sized walnut, when all the urgent symptoms gradually and entirely subsided. The author alludes to another case which occurred at St. George's Hospital, in which, after death, "a round calculus, as large as a walnut," was found impacted in the ductus communis hepaticus. He concludes by observing that there is an inference from these two cases of biliary concretion that may with advantage be remembered in our diagnosis of jaundice and constipation, viz., that the progress of gall-stones through the ducts (even when inordinate in their dimensions) is not disproved by the absence of pain in the epigastrium.

Mr. H. C. Johnson inquired the weight of the calculus in Dr. Wilson's case. He had seen a case in which a calculus of uneven shape, and weighing two and a half drachms, had passed by the intestinal tube. In another case in which the gall-bladder had been filled with calculi it had ulcerated, the bile escaped into the peritoneum, and the patient died.

Dr. Addison said it was interesting to inquire how a biliary calculus escaped from the gall-bladder into the intestines. It was generally supposed that the passage was effected by the muscular efforts of the gall-bladder, but he thought it much more probable that the irritation of the calculus produced such a secretion of mucus in the viscus that the duct was opened by it, and the passage of the stone thereby facilitated.

Mr. Ancell had a week since attended a lady who had died suddenly from what might be called "syncopal asphyxia." She had no symptoms of gall-stones. On examining the body the heart was found dilated and its walls thin, all the structures were pale, and the large vessels empty; the blood was thin, and the kidneys pale, and one of them diseased. The neck of the gall-bladder was occupied with a large calculus, whilst the fundus of the viscus was filled with a limpid fluid containing flakes of chlorestine. This fluid was tasteless, and answered to tests for the phosphates and chloride of sodium. This lady had never presented any symptoms referrible to the liver or gall-bladder.

Dr. Mayo related the following case:—An old lady was suddenly seized with vomiting and considerable pain in the abdomen; the egesta became stercoraceous, the countenance collapsed, and the pulse low, and scarcely perceptible. There was much pain on applying pressure to the abdomen, which region was examined with the view of ascertaining whether the symptoms were referrible to hernia. From the time of this examination the patient expressed herself as having been sensible of something having moved downwards in the abdomen. A few hours afterwards a calculus was passed by stool, and there was immediately a remission of all the symptoms, the pain was removed, and the patient was rapidly restored to health. Dr. Mayo related the case merely, and offered no opinion as to whether the examination of the abdomen had pressed the gall-stone downwards.

Mr. Ancell remarked that, at least in the case he had related, no pressure on the abdomen would have dislodged the calculus.

Researches into the Connection existing between an Unnatural Degree of Compression of the Blood contained in the Renal Vessels, and the presence of certain Abnormal Matters in the Urine. By George Robinson, M.R.C.S.L.; communicated by Dr. Marshall Hall.

The author commenced by briefly enumerating the advantages which the kidney presented for an experimental investigation of the laws regulating effusion. This organ could be readily exposed in the lower animals without the infliction of much pain or injury, and its artery, vein, and duct, separately secured by ligature. The importance of Mr. Bowman's recent discoveries in enabling us better to understand the mechanism of the process, was also alluded to.

The experiments, thirty-four in number, were divided into two chief classes. The first, being intended to illustrate the peculiarities of venous obstructions, contained the result of twenty experiments. The second, having for its object the explanation of some of the effects of increased determination of blood, contained fourteen experiments.

After some remarks on the morbid appearances met with in certain of the above experiments, and which seemed to be analogous to changes occasionally occurring in the human kidney, the paper concluded by expressing the author's opinions.

1. That the process of the effusion of albumen and lymph through the coats of the vessels of the living body, is dependent on, and regulated by, the degree of the compression of the blood contained in these vessels. For the production of an intense degree of compression, the co-operation of two essential causes is required. The momentum of the arterial blood derived from the contractions of the ventricle constitutes the force which produces the compression; but as a counter-resistance is required before the latter state can occur, it is only when some obstruction to the free passage of the blood through the smaller vessels exists that the effects of undue compression are perceptible. As the amount of the momentum of the arterial blood and the completeness of the obstruction vary in different instances, so will the nature of the effusion.

2. That simple compression of the blood

in its smaller vessels will cause the exudation of liquid albumen, of coagulating lymph, and the escape of blood; and as both the essential causes of undue compression are known to exist in inflammation, it is but reasonable to conclude that the primary effects of the latter, which are identical with those of undue compression, are the mere consequences of that physical cause.

3. That there is no relation between the composition of the effused matter and the extent of the dilatation of the coats of the vessels as measured by the quantity of blood they contain. (To establish this point more clearly, part of a table, showing the relative weights of the healthy and engorged kidneys and the composition of the urine, was read.)

4. That a gradually increased quantity of blood may be directed to the vessels of a particular organ without causing any unnatural compression of that fluid.

5. But the concluding experiments show that if the quantity thus determined be considerably and *suddenly* increased, then some of the effects of undue compression of the blood will be produced.

The PRESIDENT said that it was interesting to observe the revolutions of opinion which prevailed in theoretical medicine. The paper before the society tended to support the mechanical doctrine of Boerhaave, that inflammation was dependent on an increased determination of blood to an obstructed vessel. He would inquire how the well-known fact was explained that when, in Bright's disease, the urine contained much of the red particles of the blood it was but very slightly, if at all, coagulable; whereas, when voided clear, and it remained so, it was very coagulable?

Dr. MARSHALL HALL observed that he thought the paper highly valuable and calculated to reflect an important light on some cases of pathology, otherwise he would not have taken upon himself the responsibility of presenting it to the society. It pourtrayed, by valuable facts, the effects of impeded flow of blood along the renal veins, and of its augmented flow along the renal arteries, on the secretion of the kidney. It illustrated a fact which he (Dr. Hall) had observed in cases of valvular and other diseases of the left side of the heart. In such cases he had frequently found the urine albuminous, the flow of blood along the venous system generally, and along the renal veins as a part of it, being impeded. This fact he had not, to his recollection, seen in any publication.

Dr. ADDISON said that the fact mentioned by Dr. Hall had been often noticed at Guy's Hospital.

Dr. HALL replied that however the fact of publication might be, the event itself was common enough, for it had occurred in no less than three cases under his care at the same time.

Dr. C. J. B. WILLIAMS thought that the anomaly mentioned by Dr. Addison was to be explained by the fact that hæmorrhage and albuminous flux, or dropsy, arise from pathological conditions in some respects different. A little blood in the urine makes a great show, and may occur when the renal blood-vessels are little congested; but albumen may exist in large amount without being obvious, except through chemical examination; yet it betokens a high degree of congestion. He was particularly interested in Mr. Robinson's experiments, as their results entirely corresponded with observations and views which he (Dr. W.) had made and taught for several years, both with regard to the effects of congestion in general, and with relation to its influence in causing albuminuria. That mere congestion, accompanied by much distention of the vessels, suffices to produce effusions of fibrine as well as of serum, he had seen repeated proofs. In obstructive disease of the valves of the heart, proving speedily fatal, with great congestion of the pulmonary and venous system, he had found liquid in the pericardium and pleura, separating into a fibrinous clot and serum after it was removed from the body. In ascites, from cirrhosis of the liver, he had often found in the pelvis gelatinous masses of fibrine, which he doubted not were effused as liquor sanguinis from the intensely congested portal system, for there were no traces of inflammation. That albumen in the urine might arise from a temporary cause, such as congestion from diseased heart (as mentioned by Dr. M. Hall and Dr. Addison), Dr. W. was well assured by repeated observations. In fact, Dr. W. believed that a certain amount of congestion in the kidney is the true cause of albuminuria in all cases, and that such congestion is the essential part of the early stage of Bright's disease; although structural change follows, this tends to diminish rather than increase the albuminous exudation. He thought that this view was supported by a consideration of the exciting causes of this disease, and of the most successful means of treating it. Although admitting, with the author, the influence of compression (or, as he would rather call it, vascular *distention*) in modifying the results of congestion and inflammation, he considered that the latter comprised other important changes in the blood itself, especially the production and adhesion to the sides of the blood-vessels of an increased number of lymph-globules, or exudation-corpuscles, which appear also outside the vessels. He also considered that we have the means of defining with considerable precision the distinctions between the three chief morbid vascular conditions, congestion, determination of blood, and inflammation.

Mr. ANCELL proposed a question, in answer to which

Dr. WILLIAMS stated that the exudation-corpuscles which he had seen were not pus globules, but nucleated bodies, of a gelatinous consistence, and quite different from the blood-discs, probably the cell-germs or cytoblasts of new textures. The true pus-globule, which is a nucleated cell, is not seen in frogs, in which Dr. W.'s observations were made. It was not clearly made out where pus-globules were formed; but he (Dr. W.) thought they are generated in the liquor sanguinis, as the lymph-globules certainly were, and may therefore be developed both within and without the blood-vessels.

Mr. ANCELL concurred with the last speaker in the importance which ought to attach to the mechanical obstruction that occurs in inflammation as set forth in the author's paper. He also had no doubt that changes take place in the blood thus arrested in its course through an inflamed part. But he could not agree with Dr. Williams in the reasoning he had adopted for the purpose of establishing that point. If by the term "exudation-cell," was to be understood the pus-globule, or anything of the like magnitude, as traversing, where inflammation exists, the parietes of the capillary vessels, it was clear that such a circumstance could not happen, for there were no pores in the vessels large enough to allow of the passage even of the blood-corpuscle, which is much smaller than the pus-globule, nor was there any solution of continuity. But that the blood undergoes essential changes within the vessels during inflammation is shown by some other very remarkable facts. For instance, the blood-corpuscle alters in form, as observed microscopically. It becomes damaged, as it were, and broken down in the stagnant fluid. Dr. Rees detected iron in pus, and the fact of pus containing iron has been confirmed by other experimenters. The liquor sanguinis, in its healthy state, does not contain iron. Thus the blood stagnant in the capillary vessels must be modified, and a *liquor puris* exudes, although no pus-globule nor exudation-cell can traverse the parietes of those vessels.

After a few words from Mr. Dalrymple, which we are accidentally prevented from adding, and some from the author of the paper, the society adjourned.

DISCUSSIONS AT THE MEDICO-CHIRURGICAL SOCIETY.

To the Editor of THE LANCET.

SIR,—An objectionable practice has become very common at the meetings of this society, and a hint from you may do good in that quarter. Of late years it has often been usual to consider the time at the meetings as in great part bespoken for such fellows as may wish to relate the more interesting particulars of their own lives, having reference, real or imaginary, to the subject of the paper under consideration; so that while the author has occupied fifty or twenty minutes in communicating valuable facts and opinions, half, three-quarters, or even a whole hour is taken up with the casual observations and extempore comments of some half-dozen of the fellows.

With very few exceptions, the whole of the speeches come from the freshmen, with, perhaps, a little help from one or two junior sophisters; not one senior that has passed the chair is in fault, and scarcely any whose standing has brought them within the proximity of the chair. The juniors, principally, err in this respect, and require the application of a little wholesome criticism to teach them the distinction between a scientific association and a debating club. Of late years there has been an immense infusion of young blood into the society, including not a few fluent speakers, and the society as now constituted offers facilities, and holds out inducements, to vocal performers, that many seem unable to resist. Surely, Sir, these things call for amendment. Some check ought to be put on pathological fantasias and clinical lectures, and some moderation observed in the publication, through the medium of the society, of accounts of the sufferings of people of quality, and the contents of private case-books. The chair should recal wanderers from the subject of the paper. Indeed, the president is especially selected from amongst the seniors of the body, and is usually one of the most eminent of the profession, in order that his greater influence may keep the proceedings in their proper channels and in their legitimate direction, and see that due attention is received by the writers of the papers, and such attention does not permit of indulgence in rambling conversation about matters that are incidental and extraneous, though in themselves not destitute of interest, and, still less, the intrusion of irrelevant experiences and common-place opinions.

These impressions are drawn from recent observation, as every one conversant with the affairs of the society must know. The president cannot supply acumen, or knowledge, or temper, but he has ample power to preserve order in conversation, and the discipline of debate. He could prevent the same party from speaking over and over again on the same night, and about the same subject. He could recal attention to the paper, and repress reclamations and altercations, thus checking that tendency downwards which is manifested sooner or later in every ill-ruled *talking* body, and convert into advantages two prominent features in the society, which at present rather impede than advance its usefulness; I mean the disproportionate attendance of the senior and

more distinguished members at the meetings, and the practice of reporting the discussions. The president might secure all necessary facilities to members for announcing pertinent things, provide against the authors of papers being thrust aside in the discussions, and render the discussions more interesting to those who are disqualified from speaking, or indisposed to take part in them.

The approaching election of a new president and council has suggested to me the committal to paper of these sentences for circulation in THE LANCET. I am, Sir, your obedient servant,

MEDICO-CHIRURGICUS.

February 7, 1843.

WESTMINSTER MEDICAL SOCIETY.

Feb. 4th.—Mr. H. J. JOHNSON, President.

HYDROCELE.—Mr. FISHER stated that he had lately met with two cases of hydrocele, in one there was two distinct sacs, in the other three distinct sacs. These sacs were severally injected with iodine and water, and a perfect cure was effected. In a case of Sir A. Cooper's, in which a hydrocele consisted of three sacs, that surgeon pushed his trocar from one cavity to the other, and did not make separate punctures to remove their contents.

The PRESIDENT related three cases in which he had treated hydrocele with the iodine injection in the manner recommended by Mr. Martin. Two of these cases were hydrocele of the tunica vaginalis testis, the other was encysted hydrocele of the cord: all did well. The advantages of this operation over the common one were its greater simplicity, and its being attended with less risk of injecting the cellular tissue.

Mr. FISHER had seen a case of sloughing of the cellular tissue of the scrotum as the result of merely drawing off the fluid from the tunica vaginalis testis.

INFLAMMATION.

Mr. SNOW read a paper on this subject. He said that in his former paper he had endeavoured to prove that the changes of composition which took place in the capillary vessels between the blood and the tissues were accompanied by attractions and repulsions, or at all events by some power which had a tendency to move the blood onward in its course. According to this view, increased function in any tissue or part ought to be attended with increased velocity of the circulation through that part; and since the function of an organ might be so much increased as to produce inflammation, as when excitement of the passions of the mind caused phrenitis, or when the intensity or long continued application of light produced inflammation of the eyes, it followed that inflammation should be accompanied by increased rapidity of the capillary circulation, and that rest from all the functions of the part should greatly promote the resolution of the inflammation.

Dr. Kaltenbrunner, and some other observers, stated that in the early stages of this disease the velocity of the circulation was greatly increased. That the capillaries of the part increased in size was admitted by all observers. The small arteries of the part became dilated, and likewise the arteries leading to the part. This could not be explained on mechanical principles; it must, he thought, depend on the branches of the great sympathetic nerve distributed to the coats of the arteries. It was to this dilatation of the minute arteries that the pulsation of many inflamed parts was owing. The increased size of these arteries and of the capillaries explained the redness, and likewise the swelling, which was generally present, although there was often effusion of serum, or coagulable lymph, or both, which caused still further swelling. The elevated temperature of an inflamed part arose from the increased functions going on, and from the increased quantity of blood passing through the vessels. It had been proved by various facts that animal heat was chiefly generated in the systemic capillaries, where the arterial was changed into venous blood; but, whether we adopted this view, or considered that the blood merely warmed the body by bringing heat from some internal source, still, to account for the elevated temperature of inflamed parts, the passage of an increased quantity of blood through the vessels was necessary, since the external air and contiguous bodies were constantly conducting away the heat. Some authors, who considered the heart's action the sole cause of the circulation, said that the current through an inflamed part must be retarded in proportion to the dilatation of the capillaries, and if the circulation depended on the *vis a tergo*, this would undoubtedly be the case; but then the temperature of inflammation would be the normal temperature; and if inflammation consisted in a stoppage of the capillary circulation, as other authors said, then an inflamed part would be colder than the others. The pain in this disease he considered to arise from an exaggeration of the normal sensibility, to which it generally bore some proportion, those parts which were most sensible in health being most painful under inflammation. It was probable that there was no living part but what had an obtuse sensibility, although usually it might not have an opportunity of evincing it: thus, an alimentary bolus was generally not felt after it was swallowed, but if it were unusually hot or cold, or harder or larger than common, it might be felt all the length of the œsophagus. It was not easy to ascertain the nature of the circulation at the

time effusion took place, on account of the opacity which ensued; probably it was retarded. As the coagulable lymph passed through the coats of the capillaries it was, of course, in a perfectly fluid state; but it afterwards formed into globules and fibres by its own living properties, and under the influence of the contiguous tissue it was capable of forming blood and vessels, and of taking on various other structures. The serum effused in inflammation, and even in ordinary œdema, had been found by Mr. Addison to contain globules similar to the colourless corpuscules of the blood; these, however, could not have escaped from the blood, as they could only have done so by a rupture of the vessels, which would have allowed the escape of the colouring matter; consequently, the liquid, after exuding through the invisible pores in the coats of the capillaries, still possessed some of the living properties of the blood by which these organic corpuscules became developed in it. The formation of pus seemed more nearly to resemble secretion; it was believed that extravasated blood and dead tissues might become changed into a kind of purulent matter, but the opinion that what was called healthy pus was never formed in this way was most likely correct.

Inflammation being a diseased process going on between the solids of a part and the blood circulating through it, both the tissues and the blood became altered in structure and composition. The quantity of fibrine, or self-coagulating albumen, in the blood became greatly increased, and it was probably formed in the inflamed part itself, since Mr. Addison had found that the blood of an inflamed part contained an increased quantity of colourless corpuscules, and there was good reason to believe that these corpuscules performed the function of changing serum into coagulable lymph. When the general circulation was quickened by sympathetic fever, however, there would probably be increased formation of fibrine throughout the body. The fibrine and the red globules had respectively a greater attraction amongst their own particles and a smaller attraction for each other than in health, and hence the buffy coat and its concave surface. He thought that many inflammations which took place without any evident local cause had their origin in the state of the blood, in the increased amount and coagulating power of the fibrine. It was difficult to determine how much the sympathetic fever depended on the altered state of the blood, and how much on the nervous system. He was of opinion that it depended chiefly on the great sympathetic, the system of nerves which was distributed to the heart and blood-vessels, and which, from mistaken notions, had lately been often called the organic system of nerves. This fever kept up and increased the original disease. Blood-letting was an important and a powerful remedy in inflammation; the blood being itself inflamed a part of the disease was removed with it. The blood was, moreover, as it were, fuel to the inflamed part, and its diminution lessened the fire. Blood-letting likewise relieved the distended vessels, lessened the action of the heart, and diminished the sympathetic fever. The withdrawal of blood from the inflamed part, or from adjoining vessels which communicate with those of the part inflamed, was of more service than the removal of the same quantity from another part; and this was of great importance to patients who could not bear to lose much blood. According to the views he had been maintaining, the way in which local blood-letting was beneficial in the active stage of inflammation was very evident; for if the functions assisted the circulation, when they were reduced by the local abstraction of blood the capillary circulation could not regain its unwonted velocity, unless some cause existed or came into operation to re-excite the morbidly increased functions of the part. On the other hand, if the circulation depended entirely on the heart's action, it was not evident how local blood-letting could have any advantage over ordinary bleeding. Rest, quietude, a cool temperature, abstemious diet, and diluent drinks, were important agents in the treatment of this disease, as were also purgatives, and saline and other medicines which had a tendency to lower the heart's action and reduce the temperature of the body. Mercury was particularly useful, and occasionally narcotics. Cold retarded and ultimately stopped all vital functions, whilst warmth, up to a certain point, promoted them all. Accordingly, applying cold, or conducting away the heat from an inflamed part, was an important means of subduing inflammation; but the disease itself often had a tendency to stop the functions, and even to destroy the structure of parts, and therefore this was a remedy to be applied with circumspection. Cold was useful, besides, from its effect in causing contraction of the capillaries, and various astringents were beneficial for the same reason. When inflammation had produced so much lesion that the formation of pus was inevitable, warm applications promoted that result; since warmth promoted the vital functions, it assisted the secretion of pus. Some inflammations did best with warm applications from the first. Perhaps, in these instances, the part required some increase of function to bring it to its normal condition, or it might be that the disease arose from some debility of the part.

There was one indication which might be fulfilled with safety and advantage in every case of inflammation of the skin, that was to stop the cutaneous transpiration, which being the chief function of the skin, pro-

moted the circulation in its capillaries, and thereby kept up its temperature. MM. Breschet and Becquerel had found that on shaving and varnishing animals, so as to stop the cutaneous secretion, their temperature kept diminishing until they died. He (Mr. S.) had covered one of his arms with oil-skin, and whilst so covered it remained colder than the other arm, although having the same clothing in addition to the oil-skin. It was evident, then, that the cutaneous transpiration was, under ordinary circumstances, a source of heat more than sufficient to overbalance the cold produced by its own evaporation; and this could only be explained on the principle of its promoting the circulation of the skin. Consequently, where inflammation existed, the cutaneous secretion would tend to enhance and continue it. On this principle he believed that the benefit of water-dressings and poultices chiefly depended, as well as the application of lunar caustic and of flour in erysipelas, the former making a dead, and in a great measure an impermeable, membrane of the cuticle, and the latter likewise interfering with transpiration. The effects of stopping the cutaneous transpiration seemed to reach some depth below the skin; for covering the mammary glands with large adhesive plasters was the most successful means of arresting the secretion of milk, and thereby preventing the ill effects which followed its congestion in these glands.

Mr. H. J. Johnson said that many observers with the microscope stated that the circulation was retarded in an inflamed part. The increased heat and bright arterial colour of the inflamed part, and likewise the force with which blood escaped when a wound was made, seemed to show that there was increased rapidity of the circulation, but he was not sure that that was independent of increased action of the heart.

Mr. J. F. Clarke said that Dr. Elliotson had related a case of what seemed to be inflammation of the subcutaneous cellular tissue, which was cured by the application of lunar caustic, although there was no redness of the skin. Perhaps that might depend on the principle which Mr. Snow had advanced.

Feb. 18th.—A peculiar case of paralysis, related by Dr. Chowne, was discussed this evening, but in the present number we have not room for the particulars.

London Medical Society, Feb. 13th and 20th.—The sittings on these dates have been occupied with a paper on puerperal fever, by Dr. George Moore, of Hastings, and a discussion on the subject. It embraced a variety of interesting questions respecting puerperal fever, but our space will not permit us to publish it this week.

MEDICO-BOTANICAL SOCIETY.

THE INDIAN HEMP.

Feb. 22.—Mr. Ley this evening communicated a paper on the *cannabis Indica*, from which it appears that, although the hemp is rejected from our officinal preparations in England, it is, and has been for a long series of years, in constant use as a popular remedy throughout the East. It exhales a powerful narcotic odour, and the branches are gelatinous to the touch, with a resinous secretion, which is collected when the seed is found (as the plant is then in the greatest perfection), and is sold under the name of *churrus*, the shoots from which the resin has *not* been collected, are cut, dried, and sold as gunjah. Although hemp is no longer used medicinally in England, there is an old Act of Henry the Eighth yet in force, by which it is forbidden to be soaked in ponds or running streams where cattle drink. The older writers speak of it as a violent poison, and state that the water in which it has been soaked produces its effects almost as soon as drank. The resin of the cannabis Indica is in general use as an intoxicating agent from the furthermost confines of India to Algiers. If this resin be swallowed, almost invariably the inebriation is of the most cheerful kind, causing the person to sing and dance, to eat food with great relish, and to seek aphrodisiac enjoyment. The intoxication lasts about three hours, when sleep supervenes; it is not followed by nausea or sickness, nor by any symptoms, except slight giddiness, worth recording. These effects are much modified in this country, and much less marked, possibly from the length of the voyage rendering the article deteriorated in value. The subsequent effects are depression of spirits and relaxation of the muscles in a marked degree; yet the lightness attending that relaxation, the free perspiration on the skin, and the increase of appetite, have made some old rheumatic persons speak of it as the elasticity of youth.

Mr. Ley draws a comparison between the effects produced by opium and those caused by the cannabis Indica, the result of which induces him to give the preference to the latter, its influence being excited more kindly and more gratefully on the system. It has proved of service in cholera and rheumatism, but it is in spasmodic and convulsive diseases that it is most eminently useful. In tetanus it has been the means of cure in the majority of cases, both in men and horses, and it has much relieved the horrors of hydrophobia, although not averted the fatal termination. It is useful, also, in chorea, spasmodic asthma, and delirium tremens, and generally wherever opium is indicated. Mr. Ley considers from this that it will prove a direct antidote, the first of its class, to strychnia, one of the most violent poisons nature affords.

THE BRUMMAGEM LIBEL.

We should have published the following resolution before, but there appeared to be no necessity for appending to the recent correspondence on the subject any further vindication of Mr. Wood than was contained in the letter of Mr. Ledsam. It is now added, at the wish of some friends of Mr. Wood, with a note, which puzzles us not less than its predecessor, but we take this opportunity of saying that we cannot occupy much space with a debate on questions that were not first raised in this Journal, and may threaten to extend to matters *extra muros*, which could only be satisfactorily discussed within, among the governors of the hospital.

Birmingham General Hospital.—At a meeting of the Medical Board, held Friday, Jan. 13, 1843, it was moved by the Earl of Dartmouth, seconded by Mr. Whateley, and resolved unanimously,—

"That while this board are fully convinced that the deservedly high reputation of Mr. Wood, as a surgical operator, needs no vindication at their hands, they feel bound to mark their strong reprobation of this wanton and scurrilous attack; to declare their unabated, and, if possible, increased confidence in Mr. Wood's professional skill, and humane attention to the patients under his care; and to express their deep sense of the important services which he has so long rendered, and they trust may long continue to render, to this institution.

(Signed) "Wm. Harrold,
"Chairman."

To the Editor.—Sir, In consequence of the communication which appears at p. 715, of The Lancet, of the 11th inst., I am preparing a letter, which I hope you will do me the justice to publish in next week's number. Trusting that I shall convince you and your readers that *I* have neither told a *falsehood*, nor *prevaricated*, nor resorted to *subterfuge* in any shape. I am, Sir, yours respectfully,

J. J. Ledsam.

Birmingham, Feb. 22nd.

ONE OF THE SLIMY FAMILY.

To the Editor of The Lancet.

Sir,—I present to your attention the inclosed circular of Mr. Edwin Edmonds to the St. Columb board of guardians. Many years ago I read the "Ancient Mariner," two lines of which are now in my recollection:—

> "And slimy things did crawl with legs
> Along that slimy sea."

If I have not quoted Coleridge with accuracy, the memories of your readers will easily afford the necessary correction.

Far be it from me to asseverate that amongst the members of the honourable profession of medicine there are any to whom the epithet of "crawling reptile" may be considered appropriate. I am, Sir, your obedient servant,

J. H. Nankivell.

St. Columb, Cornwall,
Feb. 14, 1843.

"St. Columb, 9th February, 1843.

"Dear Sir,—I hope you will secure my reappointment to the union workhouse, and No. 3 district, by recording your vote in my favour at the approaching election of medical officers for the ensuing year. I take the liberty of asking this favour in consideration of the successful stand I made two years ago (and which I am still ready to make, if required) in coming forward to the aid of the board of guardians, and thus preventing the board from being obliged to submit to that rate of payment dictated to them by the other resident surgeons. I am, dear Sir, your very obedient servant,

"Edwin Edmonds.

"To Mr. Northey, guardian, St. Columb."

THE STAFFORD MEDICAL-CORONER FUND.

To the Editor.—Sir: Can you tell me whether Dr. Dehane has handed over to any committee part of the money which he received for withdrawing from the late contest for the coronership of Staffordshire. In his letter to you he expressed his determination to devote whatever balance there might be, after deducting *his own* expenses, to promote the success of the "next eligible candidate for the office of coroner;" and Mr. Nixon, a gentleman of respectability and decision, and who is in every way qualified to exercise the duties of so important an office, is now canvassing the electors of Durham. Under these circumstances, and as no notice on the subject has appeared from Dr. Dehane in your valuable Journal, I consider it my imperative duty, as a *bonâ fide* member of the profession, to express, publicly, a hope that the doctor will at once see the propriety of disposing of the balance without delay, and I feel assured that the subscribers of The Lancet (more particularly those residing in Wolverhampton and its neighbourhood) will be much pleased to peruse a communication from an authorised person acknowledging the receipt of the same for the public purpose to which it was promised to be devoted. I am, Sir, your obedient servant,

Mens sibi Conscia Recti.

February 7, 1843.

*** What attempt has been made to create a fund—which the contribution of Dr. De-

hane was promised to enlarge—by general subscription, to secure the object desired, whether on behalf of Mr. Nixon, or any other future medical candidate? This is a question which Dr. Dehane, himself, may very reasonably ask.

A FOREIGN BODY REMOVED FROM THE BRONCHUS BY TRACHEOTOMY.

A MAN, twenty-four years of age, having eaten some cherries, one of the cherry-stones found its way into the trachea. Next day, when seen by his medical adviser, the patient, though he had but little pain or cough, experienced, with much difficulty of breathing, a perceptible sensation of something rising in the chest at each access of cough or full expiration. The surgeon decided on performing tracheotomy, and trusting afterwards to the efforts of the cough to get rid of the stone. An incision was made dividing three of the tracheal rings. The practitioner introduced his finger into the trachea, which caused a fit of coughing, and the patient felt the stone move and rise in the chest. The introduction of the finger was twice removed; and on the third occasion it was not withdrawn until it had provoked a cough of much violence, which, on the hasty withdrawal of the finger, expelled the stone through the opening. The wound healed in a fortnight.—*Medicinische Zeitung.*, 1842.

ROYAL COLLEGE OF SURGEONS IN LONDON.

LIST of gentlemen admitted members on Friday, Feb. 17, 1843:—W. Thorn, S. H. Steele, R. Brown, T. D. Martin, J. G. Sproston, H. Gavin, J. Growse, A. C. Ayres, R. Nugent, G. Allen, C. H. Duck, W. J. Bryant.

BOOKS RECEIVED.

Observations on the Principal Medical Institutions and Practice of France, Italy, and Germany; with notices of the Universities and Climates, and Illustrative Cases. By Edwin Lee, M.R.C.S., &c. Second Edition, enlarged, with a parallel view of English and Foreign Medicine and Surgery. London: J. Churchill, 1843. Pp. 269.

A Practical Treatise on Pulmonary Consumption, its Pathology, Diagnosis, and Treatment. With remarks on Climate, the Use of the Stethoscope, and a Table of Physical Signs. By Francis Cook, M.D., M.R.C.S.E., &c. London: J. Churchill, 1842. Pp. 120.

Views upon the Statics of the Human Chest, Animal Heat, and Determinations of Blood to the Head. By Julius Jeffreys, F.R.S., &c. London: Longman and Co, S. Highley, J. Churchill, 1843. 8vo, pp. 233.

NEWS AND CORRESPONDENCE.

CIRENCESTER UNION.—A correspondent, who "has taken much pains to inquire into the fact" whether, in the medical appointments in this union, regard has been had by the poor-law commissioners to the question of qualification, recommends, at the close of his inquiry, that "the authorities do inquire into the causes of the *very extraordinary mortality* which has occurred in some parts of the Cirencester district, for instance, in the small agricultural village of North Cerney, where nearly thirty poor persons died in a short period from one epidemic, in other parishes the mortality being," he is told, "in the same ratio." We cannot publish any other part of his letter, as the writer has not authenticated his statements (even privately) with a name and address.

A Student (Wolverhampton).—No. The Act under which the licence is granted does not extend the privilege beyond England and Wales.

A Constant Reader.—The treatment of the case proposed comes suitably under the head of that for concussion of the brain. The patient will probably do best if for the most part left to himself until reaction occurs. The recumbent position is fit enough, and the employment of diffusible stimulants also; but violent excitants should not be used.

Mr. Hogg.—The liniment used in bronchitis, croup, &c., by Dr. Bow, is thus composed:—R *Opium*, an ounce; *soap*, half an ounce; *compound camphorated liniment*, eight ounces. Digest for several days and strain.

Oligrath.—Such an event *has* been the consequence.

The communications of *B. R.*, after the publication of his note, must be authenticated, confidentially or otherwise, with a name and address.

The communication of *Dr. Williams*, relative to the pathological appearances of the body of Richard Carlile, was only received in time to be thus acknowledged this week.

A Subscriber must search the periodicals for the productions that he wants. We know of no *volumes* on the subject. The criticisms have appeared, so far as we know, only in occasional papers in the journals, and they have been numerous.

Vincent.—There is an infirmary for its treatment in Charterhouse-square.

We have not yet had time to peruse the letter of *Mr. Richard Lloyd*, dated Feb. 21st.

The Report of the Royal Edinburgh Asylum for 1842, and *Mr. G. A. Walker's* pamphlet, "Interment and Disinterment," and the paper of *Dr. Baly* on the Prevention of Scurvy in Prisons and Asylums, have been received.

ERRATUM.—In Mr. Ancell's last paper on Liebig, page 731, for "Dr. Ure," read *Mr. A. Ure.*